NEW ENGLAND FARMER.

DEVOTED TO AGRICULTURE AND ITS KINDRED ARTS AND SCIENCES.

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CALENDAR FOR FEBRUARY.

"Wide o'er his northern realm stern winter reigns
A conquering tyrant; and his icy chains
Are on the streams that lately danced along
To the glad music of their own sweet song.
The brave old oak, where through the summer days
Sported the birds and carolled forth their lays,
Stripped of its foliage by the northern gale,
Waves its dark arms aloft, and seems to wail
Unto the heedless blast that sweeps the snowy vale."

FEBRUARY once more—the last of the winter months, and a short one, too. The sun is already coming back from its southern tour, and the visibly lengthening days give us a premonition of *Spring*, though till the latter part of the month this is about all the sign of its coming.

It requires a good deal of faith to look out on the snow-covered landscape, and realize what secrets Nature keeps locked up from our sight.—"Every season," says Beecher, in his "Life Thoughts," "every season forms itself a year in advance. The coming summer lays out her work during the autumn, and buds and roots are forespoken. Ten million roots are pumping in the streets; do you hear them? Ten million buds are forming in the axils of the leaves; do you hear the sound of the saw or the hammer? All next summer is at work in the world, but it is unseen by us."

When we think how much of our time and labor are required merely to protect ourselves from the cold—to warm our houses and provide comfortable clothing, we are almost inclined to envy the inhabitants of a less rigorous climate. But even in this we may see the law of *compensation*. Every one knows that energy, forethought, enterprise, industry, and many kindred virtues, are especially the growth of a cold latitude. Doubtless the direct influence of a bracing atmosphere has much to do with this, but we may find still other causes. When the choice lies between freezing and working, most men will work. When a man knows that for six months of the year he must look out upon a barren world, he will, from necessity, employ the other six months in providing for this emergency. Hence he acquires habits of forethought.

Again, there seems to be a law of nature that by *overcoming obstacles*, we become stronger, morally, intellectually and physically, and that what we gain by hard labor, we value proportionally. It is the son who has a fortune left him who becomes a spendthrift, not the father, who by slow and constant toil, accumulates that fortune. It is the young man, who, by earnest and constant effort, acquires an education, who becomes a Franklin or a Webster, and not, usually, the offspring of wealthy parents, who stand ready to hold him up at every step. The one knows he has the battle to fight for himself, so he puts his armor on. The other is *born* to wealth, position, friends—and there is nothing to call forth his energy—and so he lacks that strength of character which is of more real value than anything he can inherit.

Success is not to be won by proxy. "Serve yourself would you be well served," is an excellent adage. We all remember the fate of Miles Standish in his wooing, because he, for the time, forgot his own motto!

In our cold, hilly, sterile New England, we must "do or die"—but then the home which we found "upon a rock," to stand against storm and

flood, we prize. The wealth we gather out of rough hills and barren swamps, we are not likely to squander; the knowledge we acquire in our intervals of physical labor, we value.

With regard to reading and writing we would remark, for the benefit of our younger readers, that, a great deal is lost by *want of system*. The one, two or three leisure hours of each day, which are, perhaps, spent in reading miscellaneous, if not trifling matter, would suffice in one year to lay a good foundation for the knowledge of almost any language. Think of that, or if inclination or expediency do not point in that direction, a course of history or biography selected with some regard to the nation, era, or character of the hero, will be of much greater use than a mass of indiscriminate, unconnected reading. Not that we would condemn light reading entirely—it is useful in its way—but let it be the *dessert*, and not the main dish. If *summer* is the seed-time of the physical world, *winter* is our intellectual seed-time. Let us use it to garner up treasures for our future.

Whatever may be said of other lands and other climates, we cannot afford to lose our winters and especially our winter evenings. Of these we have spoken before, but they form too characteristic and important a feature of New England life to be forgotten or passed over.

The gathered household—the fireside circle—of how many plans, and hopes, and wishes, is it the centre! Who can compute its influence upon the national character?

"From scenes like these old Scotia's grandeur springs,
That makes her lov'd at home, revered abroad;
Princes and lords are but the breath of kings—
An honest man's the noblest work of God."

But winter has other pleasures peculiar to itself, beside those of the Home circle. There are social gatherings, lyceums, concerts, and last, but not least, in the opinion of the young people, *sleigh-rides*,—though some confess to an involuntary shiver, a sort of "Arctic Expedition" sensation, at the bare mention of such a thing! But such persons must have been among those who went a sleigh-riding, and found "Love's Labor Lost." It ought to kindle one's blood into a delightful glow, even to think of an old-fashioned sleigh-ride. With the roads glassy, the thermometer a little above zero, a pair of spanking steeds, plenty of buffalo robes, and three humans on a seat, the hero in the middle, who would care for Old Boreas, even if he came with all the Arctic Regions on his back!

We suppose it was in a milder climate than ours, that the old song was written,—

"'Twas on the Eve of Valentine,
When birds begin to mate,"

for, as those who have not outlived their romance will remember, *Saint Valentine's* day comes on the 14th of February, when few birds besides the adventurous snow-birds are to be seen in our region, and they, like many of their betters, must be too much engaged "in getting a living," to think of matters of love.

For the farmer, February is not, comparatively, a busy month. He stops to take breath, as it were, before the time for breaking up the earth, and preparing for Spring's work, comes on again. If a systematic farmer, he lays his plans for that work, and has it, as it were a map, constantly before him, so that he knows just at what point to strike to press forward his business to the best advantage. He, also, grows lusty and strong on the leisure he has enjoyed, and on the mental aliment which he has stored up. For such an one the earth unlocks the treasures of her bosom, and welcomes him to the banquet.

Winter affords grand themes for the poet, and and if they are not so gentle and soothing as those of spring or summer, they have a grandeur and sublimity, equally as indispensable in the passage of the seasons. And as the poet opened our pleasant discourse with the reader on this February topic, so may he grace its close.

The Ice-King loves no music save his own,
That, like an organ's deep and solemn tone,
Swells where the midnight tempest wildly sweeps
Through leafless forests and o'er craggy steeps.
And voiceless is my harp; or if its tone
Should mingle with the winds a plaintive moan,
'Tis not my hand the tuneful change that rings,
Nor mine the voice that to its music sings—
'Tis but the wind that sweeps its sounding strings.

GEORGE BLANCHARD.

WALKING AS AN EXERCISE.

It is well understood that the general health of cities is due to the custom of constant walking, which prevails among the residents of crowded towns. This compensates for the want of fresh and free air. It is certain that city ladies walk much more than their country friends. The latter, when they can command a horse, think a mile's walk a great undertaking. Ladies in the country hesitate about venturing abroad on foot; and they remain within doors, or in quiet inaction, while the city dames, who are presumed to be "delicate," and unable to endure fatigue, walk miles over the pavements, without thinking of the exertion. Visitors to the city from the country are worn out by a day's "shopping," while their city guides are apparently as fresh at the close as in the beginning of the day's work.

Walking is the most natural, useful and thorough exercise that can be taken. Infantry, in an army, can outmarch the mounted men. A proof of the superiority of the biped over the quadruped, is given in the result of a recent wager. A man undertook to walk from New York to Cincinnati in eighteen days, and accomplished the task, with nine hours to spare. The person

with whom the bet was made accompanied him in a carriage, and the pedestrian, at the end of the journey, was in better condition than the horse or his driver. This accords with all experience. The human frame becomes inured to wholesome and proper exertion, and the biped gains strength under it, in a greater degree than any quadruped. We have no objection to dumb bells, and other paraphernalia of the gymnasium. But none of these contrivances are half so beneficial as the use of our natural means of locomotion.

The people of this republic have the largest continent in the world to travel over, and are, as a nation, the greatest travellers. But while the rail, the river and the horse carriage are all used to the utmost, we walk less than any civilized people under the sun. A man, no matter how much his leisure, or how great his need of economy, would be thought very poor, or next to insane, who should use his feet for a journey. He would, at the very least, be set down as eccentric or a humorist. Where time is valuable, or strength is to be husbanded for active employment, it is well to take advantage of public conveyances. But if Americans would prescribe to themselves what John Bull calls his "constitutional walk," we should gain in strength of muscle, and banish or diminish the common complaint, dyspepsia. Athletic games are well in their way, but one cannot always get up a cricket or rowing match. The consent of others is required, whereas, to walk briskly and habitually, it needs only that we overcome our own inertia, and diabuse ourselves of the notion that a horse's legs are better than a man's.

No motion calls more of the muscles into healthy play than walking—not gliding like a ghost, with arms motionless, but pushing along, with a hearty, springy swing. Nothing more exhilarates the whole man than a current of air created by his own brisk movements. If this exercise, so conducive to health, and so readily taken, were more in fashion and in favor, we might meet the doctors with an independent air; and as to the nostrum-mongers, starve them into taking up a more useful avocation.—*Philadelphia Gazette.*

For the New England Farmer.

AN EXCELLENT CROP OF ONIONS.

MR. EDITOR:—It may recur to the memory of some of your readers, that in the course of last spring, I furnished for the columns of the *Farmer* the measurement of several huge mounds of manure, which I found standing on the farm of Mr. SETH HATHAWAY, of this town. In that article, I intimated that I should keep an eye on the crops of Mr. Hathaway during the season, with the view of reporting at some future time how such manuring paid. I would, in general, remark on the result of this high manuring, that the returns were proportional to the outlay, the crop of potatoes in particular being remarkably heavy. Of the onion crop, I have now before me the weighed yield of half an acre, which I think will be on all sides conceded to be a credit to his skill and industry. Number of pounds of onions marketed from a measured half-acre of land, 17,575; which, at fifty pounds to the bushel, would make 351½ bushels, or at the rate of 703 bushels to the acre! Who will take the palm from Mr. Hathaway? J. J. H. GREGORY.

Marblehead, Dec. 15, 1858.

ROOTS CANNOT GROW WITHOUT LEAVES.

It is a well-known and well-settled principle in vegetable physiology, that no part of a plant can grow without the assistance derived from the leaf, which decomposes and re-arranges the crude materials of the food of plants, and thus forms new wood.

For this reason, a very simple and easy way to kill a patch of Canada thistles, or any other weed whose roots spread wide and extend deeply into the soil, is by keeping the tops cut off or the leaves smothered, so that no food can be furnished to the roots below. A few months of starvation in summer will destroy the plants.

For the same reason, clover or any other plants, will extend the growth of their roots more rapidly and freely if a larger top is permitted above ground than if closely pastured.

The following statement, not wholly new, from a source that we cannot at this moment give, is a further corroboration. The "curious circumstance" mentioned, exists the same with any other plant, as with clover:

"AGRICULTURAL EXPERIMENT.—A curious circumstance connected with the growth of clover is, that by cutting the clover twice and removing all the hay, a much better wheat crop is obtained than by feeding it off by sheep, even if some artificial food is used. This is owing to the fact that the growth of the roots of clover in the land is in exact proportion to the growth of the leaves in the air. Each leaflet that shoots upward sends a radicle or root downward. If the leaflet be bitten off or destroyed, its radicle ceases to grow. It therefore follows that grazing clover by sheep materially diminishes the amount of vegetable matter accumulated in the soil by the roots, and consequently the produce of the succeeding crop."

The above is sustained by the following:

"A friend of mine in Northamptonshire had a field of clover; it was divided into two portions; both were cut at midsummer, and one part was then fed off with sheep, and the other left to grow till September, when it was again cut, and the hay removed. Equal portions of the several pieces were then compared. Where the clover had been cut once and fed off, he got 35 cwt. of clover roots per acre. Where he cut twice, he got 75 cwt.; there being a difference of two tons of vegetable matter per acre."—*Country Gentleman.*

TABLE FOR MEASURING LAND.—The attention of the reader is called to the *Table for the Measurement of Land*, which we give in another column. We think it will be found, not merely convenient, but exceedingly useful to all classes of farmers. It was prepared at our suggestion, with great care, by one of the clerks of Messrs. *Shedd & Edson*, Civil Engineers, 42 Court Street, Boston, at a cost of not less than twenty-five dollars.

PROPER USE OF PORK AS FOOD.

The *Scientific American* having endorsed the opinion that "A fat hog is the very quintessence of scrofula and carbonic acid gas, and that fat pork was never designed for human food, making no red meat or muscle," etc., Dr. HOLSTON, of Zanesville, who is one of the most intelligent physicians of Ohio, wrote to the *Courier:*

A fat hog is truly the quintessence of scrofula, for scrofa in Greek is *hog*, and the derivative scrofulous means *hoggish*. The disease scrofula was so called when medical science was in its infancy, from its *supposed* resemblance to some diseases of the hog, and then the inference was easy, that eating the hog (scrofa) produced the hog-disease (scrofula.) It is well known, however, that our American Indians and the Hindoos, who never use pork, are liable to this disease; that in Europe it prevails *chiefly* among the ill-fed poor, who hardly taste meat of any kind.

On the other hand, the Chinaman and our own pioneers, who hardly eat any other flesh, are remarkably healthy and exempt from scrofula—a disease we have much more reason to suspect as originating long ago from the hereditary taint of an unmentionable disease favored by irregular living and poor diet.

In the South, from their sleek appearance and *exemption* from scrofula, you can at once distinguish the bacon-fed negro.

These examples may suffice on that head.

Fat pork is not in any sense carbonic *acid*, but hydro-carbon, a combination of hydrogen and carbon. It becomes carbonic acid and water by combining with oxygen in the act of being burned or digested, which is much the same thing—giving off during those processes large amounts of heat and. ght.

It is true the *fat* of pork does not make blood or red flesh, though the lean, which is always eaten alone, *does*. It is as your article says truly, material for breath. Well, that is a good deal. It is supposed that if the writer's breath had stopped five minutes before he took his pen, we should never have seen his article on fat pork.

But it does more. All the fat that goes into the stomach and thence into the blood does not undergo slow burning, but is deposited in the body as *human* fat. Now a certain amount of fat is so necessary for the proper play of all the parts, muscles included, that without it, the body, like an ungreased engine, wears itself out by its own friction. In consumption, the waste of fat is one alarming and most dangerous symptom, and the far-famed cod liver oil acts perhaps chiefly by supplying the blood with fat.

I am satisfied by experience that fat pork—when the stomach will receive it—does just as well. Moreover, few of those delicate persons that have so great an aversion to pork or other fat, ever live to see forty years. They die young of consumption. Butter, sugar, starch, vegetable oils, act to some extent as animal fat, and in tropical climates are used as substitutes.

But go to the Arctic regions and see the refined Dr. Kane and his men devour raw walrus blubber with a gusto, as we would take a dish of ice-cream, and you will conclude that "fat pork," particularly in our Arctic winters, is not so bad an institution.

We could not live on fat pork *alone*—nor on sugar and starch—though we could on bread. Bread, the *staff of life*, contains the materials both for breathing and making blood and red flesh (muscle) in a supereminent degree, greater even than lean beef or any other single article of food, and this, or some substitute, such as beans, peas, potatoes, etc., is always eaten with fat pork, so that there is a sufficient supply of blood and flesh-making material. However, excess is bad, and the fat pork must not constitute the bulk of a meal.

Chemical analysis is a poor substitute for the observation of facts in the living body, nor can we even base very much on experiments made on Mr. Martin, the man with the hole in his stomach, by which food can be introduced and digestion observed, for that is not nature's way of getting it there, and a stomach with such an unnatural opening is much like a leaky dinner-pot with a hole in the bottom stuffed with a rag. Extended experience alone can settle such a question.

The Greeks and Romans esteem pork as a luxury, and a most wholesome diet; their athletes and gladiators (prize-fighters) were fed on pork. Our own Saxon (Teutonic Scandinavian) ancestors esteem it so highly that they, even in their heaven, provided a great hog with golden bristles, called Gullibortstli, of whose bacon the heroes of Walhalla dined every day, when at night the picked bones again united and became covered with a fresh supply of fat pork. In this estimate of the hog, the mass of mankind, not of the Shemite race, (Jews, Turks, Arabs, etc.,) who follow Moses' law, that had spiritual and representative meaning, have in all ages agreed, and will agree, as long as man has canine teeth, and lives by *drawing his breath*. Whenever the *Scientific American* or Prof. Liebig will discover a new process of living without breathing, we may be guided by their opinion; till then, I opine, "good *corn-fed* (and no other is good) pork" will rule the roast, of which themselves will not be slow to partake.

My remarks are of course only applicable to men, women and children with comparatively healthy stomachs, who have sufficient exercise, with pure air and water.

For the New England Farmer.

"USE OF FRESH MANURES."

MR. EDITOR:—I noticed an article in your paper of the 27th of November, under the above caption, from Mr. Mansfield, of West Needham. Is it possible in this enlightened age, and after a man has spent "forty years among the corn crops," that he should be so greatly mistaken or blind in regard to the manufacture and application of manures, or that he should have the "courage" to write such an experience for an agricultural paper? (And I think you, Mr. Editor, must have a large share of moral courage to publish it.)

How many converts does he expect to make to his theory, "that manure composted under cover is a dangerous article as food for plants;" or how many careful farmers will be likely to follow his advice, and "give their manure the ben-

efit of both sun and rain?" Or will he find one individual outside of the walls of a lunatic asylum to subscribe to his doctrine, "that there is no place more suitable for manure in the winter than under the eaves of the south side of the barn, that all the water that falls from the barn, and the snow that accumulates upon it is no more than is needful for the preparation of the manure, to fit it as food for plants," &c., &c. In his "forty years' experience," has it never occurred to him, that he could compost his manure? mix with it soil, mud, peat, &c., and by this process secure all the juices and gases that otherwise would escape by drainage and evaporation?

In his long experience, has he never learned that the caustic qualities of powerful manures, (whether barn manure or guano) if he puts an undue quantity in the hill, will prevent the germination of his corn or other crops? and yet if instead of exposing it to the weather and bleaching it in the rains, he would mix it with the same bulk of soil or mud, he would have twice as much manure, and of a better quality; then his barn cellar will not poison it, and it will not poison his crops or prevent their germination.

Can it be possible that Mr. M. is in earnest in recommending his ruinous theory? or that he would for a moment think of practising it himself? If so, we would suggest that his "forty years' experience in the cornfield" has been in vain, and that he had better have slumbered all that time with Rip Van Winkle.

HORACE COLLAMORE.

North Pembroke, Mass., Dec., 1858.

CARE OF SHEEP—MUTTON.

The opinion is quite prevalent in some sections, that sheep require no water in winter, and that they actually do better without than with it. This, however, is a mistake, and one that has not unfrequently caused considerable losses. When permitted, sheep, although they are, from their particular nature, capable of subsisting a longer time without fluids than any other domestic animal, will generally drink from four to eight times a day, and with evident benefit, particularly during winter, when they are necessarily restricted to dry and unsucculent food, which engenders thirst, and requires much drink to render the economy of digestion and assimilation sufficiently rapid and perfect to insure a continuance of thrift and health. When practicable, there should always be a watering-trough in the shed or yard, to which the animals confined in it can at all times have free access, without mixing with cattle or large stock of any kind, as they are liable to be injured by the latter, especially when young. When there is a pump in the yard, the trouble attending such an arrangement is comparatively slight, even where the sheep and cattle yards are, as they always ought to be, distinct.

From twenty-five to thirty sheep are as many as can well be kept in one enclosure. When the number exceeds this, unless special care be taken to secure the most perfect ventilation, the animals are likely to contract diseases, and never do so well as when confined in smaller flocks. Pure air is essential to all animals, but especially to the sheep. On taking sheep from their summer ranges, in autumn, the sudden change from green to dry feed often operates detrimentally. This is sufficiently evinced by the sudden loss of appetite, and consequent emaciation exhibited, and which is often attributed, erroneously, to disease. As soon as they are taken from the pastures, a few messes of turnips should be given them, daily, for a week or so, gradually diminishing the quantity as they become accustomed to other food. By adopting this plan, and allowing them a liberal supply of water and salt, their constitutional vigor will remain unimpaired, and the change rendered unavoidable by circumstances, be productive of no unpleasant or deteriorating results.

In Great Britain, where so much use is made of mutton by all classes, from the peer to the laborer, great attention has been accorded, not only to the production of the greatest quantity, but also to the best quality of mutton. After so long a series of efforts and experiments, it is but reasonable to suppose that very many important discoveries have been made in this particular branch of rural economy, and that the business of fattening, in all its details, is there more thoroughly understood and practiced than in any other country. It appears, indeed, to be universally conceded by agricultural writers of England, that sheep of great size and rapid growth, will not give so fine mutton as smaller animals, and those which are longer in coming to maturity. This axiom may, in fact, be regarded as constituting the genuine secret of the success which so markedly attends the efforts of the British herdsmen and flock-masters in fattening their animals for the market. The Leicesters, consequently, are less valuable, being large and of quick growth, than the "South Downs," which are of a more diminutive size, and much longer in coming to maturity.

A late writer, in remarking on this subject, says:—"A sheep to be in high order for the palate of an epicure, should not be killed earlier than when five years old, at which age the mutton will be rich and succulent, of a dark color, and full of the richest gravy; whereas if only two years old, it is flabby, pale and flavorless."

In this country, mutton rarely attains the age of four years, and hence, probably, the reason why the article known by that name is generally so poor compared with the English article. Wethers of good size, and of a breed disposed to take on fat readily, are often marketed at two or three

years old; but it would be for the breeder's interest to keep them at least till they were five years old, as he would then be able to offer a very superior article, and to secure a price accordingly. There is no meat superior to good mutton; it is wholesome, and possesses a flavor equal, if not superior, to the best beef.

For the New England Farmer.

ORNITHOLOGY.

BY S. P. FOWLER.

The annual migration and flight of birds is an interesting subject, and was thought by the ancients to be a matter of real and indispensable study and use to the State. Augury was regularly taught among the Romans, and an officer was appointed, whose duty it was to foretell future events, by the singing and flight of birds, appearances of quadrupeds and celestial phenomena. A college or communion of augurs was established, and it was held in high respect.

The system and practice of agriculture among the ancients was to a considerable degree regulated by the flight of birds in their migration. Whether we shall ever acquire so perfect a knowledge of the habits of our birds, that by the use of a calendar noting their arrival and disappearance, we can, to any considerable degree, improve upon our system of agriculture, is perhaps somewhat doubtful. But the appearances and manifestations of nature, as seen on our farms, to a thoughtful and cultivated mind, are calculated to awaken devout and pleasant emotions, and when accurately observed, denote to us the proper time to commence and close our agricultural labors.

The peeping of the little hyla and the note of the bluebird is the unmistakable voice of spring; the mellow note of the Baltimore bird and the quaint melody of the bobolink remind us that the yellow maize should be lain in the earth, and left to "sleep in the rain and sunshine;" the appearance of the blue jay in autumn, having left the woods for our cultivated fields, proclaims to us by its clamorous note, the harvest near; the call of the wild goose, over our heads, late in autumn, as it pursues its southern flight in long, converging lines, is a sure indication that the northern lakes are frozen, and that the earth is soon to be closed with frost; while the appearance of the shrike, as he descends from his home in the mountainous forest, indicates to us the approach of the snows of winter.

To an ornithologist, the study of the migration of birds is particularly interesting. Many of our land birds probably are guided instinctively in their journeys by the course of our great rivers and mountain ranges, and our water birds by the trending of our coast line. But it is difficult to conceive of the instinct that directs some of our birds, which do not appear to heed the directions supposed to be apparent on the face of the country, but carelessly pass along, intent only in feeding, as they slowly progress in their journey, taking no landmarks, and heedless little creatures as they, do not even so much as take a *bird's-eye* view of the country over which they pass. For instance, there is the little ruby crowned wren, that little atom of ornithology, not larger than one's thumb, which passes from Hudson's Bay, where in summer it breeds, to Florida in winter, and back again to its northern home in spring. In its migration in autumn, it passes through Massachusetts in October, gleaning its food, principally consisting of the larvæ of insects. This little timid bird does not for a moment, appear to lose its way, or, as we say, get its head turned round; but uniformly enters an orchard or garden on its northern side, and passing through it, from tree to tree, leaves it from its southern border, and thus pursues its journey silently and quietly along for months, until it at last reaches the most southern portion of the Union. In February, it leaves Florida in its journey north, and arrives around Hudson's Bay by the first of June, and after rearing its young, leaves these northern regions for the south about the middle or last of August.

Although most of our small birds migrate to the south in winter, the swallow tribe, under peculiar circumstances, do not always conform to the great migratory law of their nature, but provide themselves with winter quarters in hollow trees, sand banks and the bottom of ponds. The proclaiming of this singular fact, I am sorry to say, disturbs some of my ornithological friends. Well, the exhibition of unbelief upon this subject is nothing new or strange, more especially, with those who hold that nature never contravenes her own laws. The parts visited by our birds in autumn and winter are Mexico and the southern portions of the Union. Mr. Nuttall, who has given considerable attention to the migration of our birds, remarks that the greater number of birds travel in the night; some species, however, proceed only by day, as the diurnal birds of prey, crows, pies, wrens, creepers, crossbills, larks, blue-birds, swallows and some others. Those which travel wholly in the night are owls, butcher-birds, kingfishers, thrushes, fly-catchers, night-hawks, whip-poor-wills, and also a great number of aquatic birds, whose motions are often principally nocturnal, except in the cold and desolate northern regions, where they usually retire to breed. Other birds are so powerfully impelled by this governing motive to migration, that they stop neither day nor night; such as the herons, plovers, swans, cranes, wild geese, storks, &c. When untoward circumstances render haste necessary, certain kinds of birds, which ordinarily travel only in the night, continue their route during the day, and scarcely allow themselves time to eat; yet the singing birds, properly so called, never migrate by day, whatever may happen to them. And it may be here inquired with astonishment, how these feeble but enthusiastic animals are able to pass the time, thus engaged, without the aid of recruiting sleep?

The migration of birds is a subject on which comparatively few observations have yet been made. Even the precise periods of their appearance and disappearance in different parts of this continent have not been noted with the necessary degree of attention; and until persons properly qualified shall undertake the task, we must remain contented without being able to answer the rather difficult question, "What causes birds to migrate?"

Danvers-port, Nov. 24, 1858.

VALUE OF HAY-CAPS.

MESSRS. EDITORS:—One of the principal uses of our agricultural papers is to promote an exchange of views and experiments among farmers. If a man has convinced himself, as Mr. Halsey has, that a doing any kind of work is useless or unprofitable, he cannot do a greater service to his brother farmers than to warn them how to avoid a foolish and useless expenditure; but being now fully convinced that my experiments have been fairly made and supported by the testimony of many who have tried them, I must adhere to my hay-caps. Mr. Halsey says he never expects to save hay uninjured through a two days' rain. I have done it, and hope, not to have the rain, but to do it again, if it unfortunately comes. In July, 1855, I had ten tons of hay cut on four acres, by mowing machines. It was put up, and the second day covered with 200 covers. I weighed several of the cocks, and they averaged 100 pounds. It rained nearly two days, and the quantity of water was two inches and four-tenths. On the third day, at 10 o'clock, I began to draw it in, only the bottom being a little wet. This saved me one day opening and spreading, and, in my opinion, saved one-third of the value of the hay. My hay-caps to cover a ton cost $6, and the hay sold for $12 a ton, and this saving was for three days' use of the hay-caps. I have heard them so frequently commended, that Mr. Halsey's condemnation of them astonishes me very much. How much hay is injured by being wet is a matter I cannot speak of with entire certainty, but I had rather keep even the dew off of mine.—WM. H. DENNING, *in Country Gentleman.*

For the New England Farmer.

FOUR YEARS EXPERIENCE WITH A MOWING MACHINE.

MR. EDITOR:—In the use of labor-saving machines, perhaps there is no question among farmers that engrosses more attention and discussion than the expediency of employing a mowing machine. This is a question which every sensible farmer will, of course, settle for himself, taking into consideration the quantity of grass to be cut, the amount of labor to be hired, and the adaptation of his farm to a mower; still I think a little practical experience may be necessary to lead him to a just and positive conclusion. It is the weakness of some men to believe that animal and mechanical labor is much cheaper than manual, and your subscriber happens to be of that class. Under the influence of this infirmity, I purchased a Ketchum machine four years since of the firm of *Ruggles, Nourse, Mason & Co.*, and whatever I have to say relates wholly to that patent. I was among the first to employ a mower in this part of the country, and likewise a horse-rake, having used the latter nineteen years. I have never seen any other machine in operation, and am not qualified to judge of their relative merits. I think, however, that the firm who now manufacture the Ketchum machine, (Nourse, Mason & Co.,) have been very ambitious to discover, and to add improvements as fast as they could be discovered, in order to perfect the machine. On my part, I have been equally ambitious to avail myself of those improvements, so that what I say *now*, will not apply to the machine I purchased four years since.

With the first machine, it required one and a half hour to cut an acre, and it was hard work at that for man or beast. Yet I was pleased with that machine, because it was so much in advance of scythes in the hands of Irishmen.

My mowing forces had hitherto consisted of three or four Irishmen and one Yankee, and they were usually cutting grass until about ten or eleven o'clock in the morning. About five dollars per year was required for scythes, snaths, and whetstones. This was just about the state of things under the old hand-scythe administration. Now we will commence with the new machine, which I procured last season, (1857, when I had cut about half of my grass with the old one,) and this has been the result, alluding to this season only. With one Irishman to trim out the borders after the machine was done, occupying perhaps one-fourth as much time as the machine, we have cut sixty-eight acres. This statement does not include a meadow of ten acres where the machine would not work. The whole has been done by an Irishman, and I think he has not worked more hours than he has cut acres. I have kept the machine in order with *less* time than it would have cost me to keep the other Irishman in trim with his scythe, providing he had worked as much time. I have had occasion to grind but once during the whole season, and the breakage has amounted to only one blade, costing twenty cents. In fact, the cost of repairs for the past four years has not amounted to one dollar and fifty cents for both machines.

The matter of grinding needs a little explanation. When I say that I have ground but once, I allude to a general grinding of all the blades in the finger bar. With the exception of grinding a single knife after it had come in contact with a stone or a bone, the whole has been done with the English burr whetstone, costing twenty-five cents, and consuming less time than it takes to grind the scythe for an Irishman after he has whet the same a dozen times. My horses have seldom sweat during the operation of mowing, and I do not think it harder work for a pair of horses than the splitting of corn hills.

The machine can be put in order for work in less than five minutes after reaching the lot to be cut, and proceed forthwith to cut the double swath. It makes very little difference with horses or machines whether the grass is thick or thin, lodged or standing up, wet or dry. In the matter of drying, however, it is better to wait until the dew is off, if the grass is heavy. The finger bar not being encumbered with any thing, we run it up under a low apple tree, round a stone, in fact, any place where it does not require a short corner to the left. Being on a line with the driving wheel, it shaves the convex and concave surfaces beautifully. I have this season cut a surface, so uneven that we could not cart a load of hay over it. It is nearly all iron, not subject to decay, except the pole and driver's seat. Take off the finger bar and pole, and it is as compact as a wheelbarrow, and may be run and stored by one man in like manner. Every part appears to be of the required relative strength, and it is difficult to say which part is most likely to fail.

Now, Mr. Editor, if I have not wearied you with my "four years' experience with a mower," I should like to tell you what I consider to be the advantages of a mowing machine.

1. It gives all the hands about three hours every morning to pitch off hay carted the day before—keep clear of weeds the hoed crops, and throw up muck and compost manure for fall seeding. The importance of the two last items farmers have not yet begun to appreciate.

2. It gives an opportunity of cutting all we wish to cut for the day after the dew is off, and the reputation of the day for a haymaker established.

3. It spreads the swaths better than is done by hand.

4. The facilities for cutting are such that they enable us to cut our grass at the precise time it ought to be cut, thereby saving a loss by being cut too early or too late.

5. The cheapness of the operation makes it advisable to take from grain fields the stubble and weeds which remain after the reapers or cradlers and doing which cleanses the future crop and affords bedding for stock.

6. In cutting the after swath, you can cut at the rate of an acre an hour, and cut to "suit your taste," whether close to the ground, or take off the heads of clover for seed.

Finally, the mowing machine imparts to the whole process and operation of haying, the pleasing aspect of relief and comfort, instead of labor and anxiety. CHAS. HUMPHREYS.

Lancaster, Nov. 24, 1858.

For the New England Farmer.

ROOT CROPS.

I noticed in a recent *Farmer* the article of "E. E.," on "Root Crops." He seems so much to undervalue turnips, that I feel constrained to bring in my testimony in favor of them. Having had an opportunity of testing their worth, I am desirous that others should be informed on the subject.

Last year I raised sixty or seventy bushels of French and rutabaga turnips among my corn. I had a first rate crop of corn notwithstanding. Now I do feel confident that turnips are good not only for cattle, but for hogs also. I began to feed my shoats last fall on boiled turnips, and continued so to do, until the next June, and think them as good, if not better, than potatoes for hogs. Your correspondent objects very much to the smell of turnips; for my part I wish I had five hundred bushels of them, for the smell would be no more offensive to me than the sweet odor of a confectioner's shop. L. CHASE.

Hampstead, N. H.

PORK AND SCROFULA.—There has long existed a strong prejudice against the use of pork as food for human beings—how it gained such strength, we cannot tell, but have always believed the prejudice to be without any good reason. We have known persons with comparatively feeble powers of digestion, to eat pork in various forms with as much comfort as they did any other meat, and we believe it may be used in moderate quantities by most persons with as much benefit as is derived from any other meat. When well cooked, it is so palatable and delicious that we are apt to partake of it too freely, and this is probably the reason why pork has got so bad a name.

We refer the reader to an interesting article on the subject of *pork as food*, in another column, and thank Dr. HOLSTON for his lucid exposition of the question.

INSCRIPTION FOR A WATCH.

Could but our tempers move like this machine,
Nor urged by passion nor delayed by spleen;
And true to Nature's regulating power,
By virtuous acts distinguish every hour:
Then health and joy would follow, as they ought,
The laws of motion and the laws of thought;
Sweet health to pass the present moments o'er,
And everlasting joy when time shall be no more.

DR. J. BYRON.

For the New England Farmer.

POTATOES—ROOTS AND STOCK.

MR. EDITOR:—I have made an accidental experiment this year, that may be worth adding to your collection of facts in respect to the potato culture. I plowed an acre of green sward in April, and planted it with Carter potatoes, cut into one eye pieces, and without any manure. It was plowed deep, and a handful of ashes was applied to each hill, at first hoeing. For some time the potatoes looked small; but they yielded a hundred bushels of very good sized, excellent potatoes, quite free from disease.

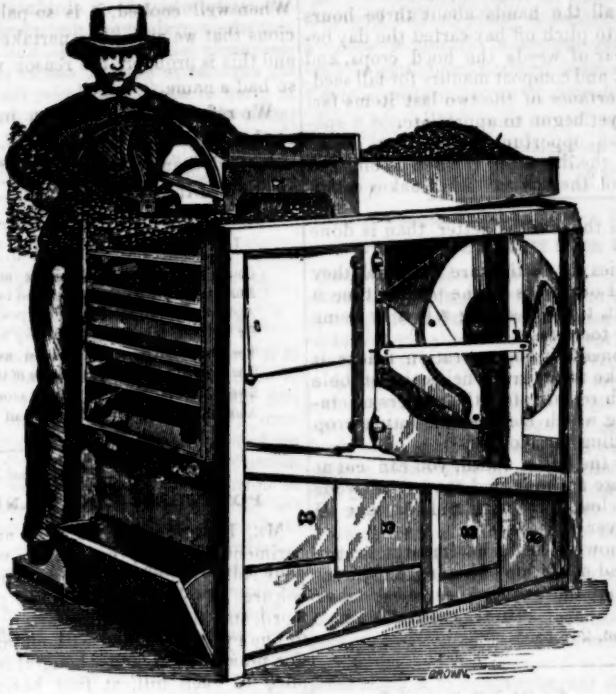
In the middle of the field, however, there was a large heap of barn-yard manure, that had been drawn out in the fall and left there till planting time. The manure was carried away and the spot it had covered planted exactly like the rest of the land. The result was a much larger yield of larger potatoes on this spot than on any other part of the field. But all of them were so much diseased as to be almost entirely worthless.

I may also add my experience to that of several of your correspondents, in favor of roots for cattle. A year ago my stock of cows and yearlings were kept entirely on turnips, straw and corn fodder till March. They were then in good condition and never wintered so well.

C. B. HADDOCK.

West Lebanon, N. H., Dec. 6, 1858.

ORIGIN OF THE CARTER POTATO.—About thirty years ago, more or less, John Carter, a resident of Savoy, in the county of Berkshire, experimented for the purpose of the improvement of potatoes by planting potato balls, and at harvesting the first year he found that he had advanced one step towards bringing out a new potato. He, therefore, the next year planted the seed raised the first, and so on for several years, till he produced the potato now distinguished as the Carter. Mr. Carter died soon after, and therefore did not enjoy the full glory of his discovery.—*Springfield Republican.*



FANNING AND ASSORTING MACHINE.

We speak of this machine after a personal inspection of it, and after witnessing repeated operations of its work. We saw a variety of seeds as thoroughly mixed in a box as they could be, turned into the hopper of the Assorting Machine, and in a few minutes returned, thoroughly clean, and each kind of seed, as well as all imperfect seeds, in a box by itself! You may mingle grain and grass seeds, garden and flower seeds, beans, peas, coffee, rice, and they will be rapidly returned to you, clean, and each by itself! Peas and beans may be assorted according to their size, and thus give them a uniform appearance, which increases their market value. The machine is simple in construction, not liable to get out of order, and is so easily operated that a boy a dozen years of age, can comfortably do it. It was invented by Mr. RUFUS NUTTING, of Randolph, Vt., who may be addressed by those interested.

A SIMPLE REMEDY FOR BRONCHITIS.—A writer in the Baltimore *Sun* who has been afflicted severely in his family by that appalling disease, bronchitis, has found relief from the following remedy:—"Take honey in the comb, squeeze it out and dilute with a little water, and wet the lips and mouth occasionally with it." It had never been known to fail, in cases where children had throats so swollen as to be unable to swallow. It is certainly a simple remedy, and may be a very efficacious one.

DELAYS OF THE LAW.—In one of Judge FRENCH'S letters from London, published in the *Farmer* in August, 1857, in speaking of the administration of justice, he said, "England had made many advances, while we in New England have stood quietly still, awe-stricken and uncovered in our veneration for old legal fictions and forms, which are really entitled to no more respect or reverence, than are the old horse-hair gray wigs, which in England every judge and every barrister is compelled to wear in the courts." "Of these matters," he added, "I may have something to say at some proper time and place, when further observation shall have assisted my knowledge."

It appears that this sort of a half-promise was gladly received by some persons, and they have been waiting patiently for its fulfilment. Upon

suggesting this to the Judge, he writes—"I have already twice delivered a charge to the Grand Jury on the *Delays of the Law*, in which I suggest the improvements made in Old England, especially in the system of County Courts. I have been requested by the Grand Jury of Carroll County to furnish it for publication, which I may do at some future time. It is not a subject adapted to an agricultural paper, but rather to a law magazine."

For the New England Farmer.

RAISING AND FEEDING ROOTS.

MR. EDITOR:—In the discussion of this subject there is one important point which, if I recollect rightly, has not been made sufficiently prominent by your correspondents; that is, the great advantage to be derived from root crops, in lengthening out a proper rotation, and in affording a change or variety of feed. I am not yet a believer in turnips, or any other root, as an exclusive feed, nor do I think it best to feed them to any great extent, in severe cold weather, unless warm shelter is afforded for the stock to which they are fed. But I have, for several years, fed a few turnips to young stock in the spring, and I am fully confident, that, not only did it make them more healthy, improving their coats and affording a *gradual change from hay to grass*, but that the nutriment supplied was amply sufficient to pay all expense of raising the turnips.

No one doubts the advantage of a little corn meal, or oil meal, or oats, in addition to the usual feed of hay, yet no sane man would think of attempting to keep neat cattle entirely on either. Why, then, do they expect any better results from roots fed in like manner? Perhaps no one would think of carrying it quite to this extent, yet I think Mr. Emerson went nearly as far in some respects, and I would respectfully suggest to him to read an article in the November *Agriculturist*, by "Diogenes Redivivus," entitled "A Desponding Farmer."

I think highly of turnips, also, as a feed for swine, to which I have been feeding them for a few weeks in the following manner. I fill a barrel kettle with one-fifth turnips and the rest potatoes, and boil with water enough to wet a half bushel of meal, which I add when cooked soft. I have not the means of weighing, to ascertain the precise result, but they appear to be thriving much better than I ever saw any when fed on clear meal, and the way they take hold of it, certainly indicates that it suits their taste exactly. I ought, perhaps, to add that I tried the potatoes and meal without the turnips, and allowing piggy to be a judge, the addition of the turnips is a decided benefit. I have seen the experiment tried of raising swine on corn meal, and on corn and oat meal, repeatedly, and although either may answer well for fattening swine previously grown on other feed, or when mixed with a good supply of skimmed milk, it has invariable proved a complete failure when fed to young animals, unless with the addition of a large amount of milk.

My own experience, as well as the directions of nearly all agricultural writers, indicates that, as a general rule, no one cultivated crop ought to be taken from the same land two years in succession; and in the cultivation of young orchards especially, which is an absolute annual necessity, and where grain crops are considered injurious, the turnip is indispensable, and farther, as far as my experience goes, it can be profitably grown; in proof of which, I will give the result of a small patch which I raised the past season:

EXPENSE OF CROP.

Use 16 rods land	$1,00
Preparing land and sowing	1,00
Hoeing	2,00
Harvesting	2,00
Manure	1,00
Total	$7,00
Amount of crop, 103 bushels, at 12½ cts.	$12,87
Cost	7,00
Profit	$5,87

It is true the land was in good condition; an acre of such land would, with an addition of 30 loads hog manure in the hill, have produced 80 bu. corn, (60 pounds to the bushel,) and this leads me to another point, viz., without this same hog manure I could not raise over half that amount of corn per acre, and I believe more than half the farmers of the northern part of New England are in the same predicament, unless they substitute some of the concentrated fertilizers, a plan which I consider to be of more than doubtful expediency.

I have had plenty of evidence that we cannot keep swine without roots or milk, the last of which, after deducting for raising calves, &c., is in many cases a minus quantity; therefore I come to this conclusion—no roots, no swine—no swine, no corn.

I should have stated that in harvesting turnips, I cut off all the roots close to the bulb, which, although adding one-quarter to the cost of getting in, makes them much neater to feed.

WILLIAM F. BASSETT.

Ashfield, Mass., Dec. 13, 1858.

For the New England Farmer.

WILL BARLEY TURN TO OATS?

In the *Farmer* of Dec. 11, "E. B." inquires if barley cut down by frost or eaten down by cattle will turn to oats. Some sixty years ago an opinion prevailed extensively in the lower or seaboard towns in this county (York, Me.,) that barley, under such circumstances, would turn to oats. When a small boy, I heard farmers talk about the matter, and my brothers made some experiments to test the accuracy of this opinion, but could not produce the effect. The first experiments I ever made in farming was when a small boy, may be less than ten years old. In going to school, to save travel I crossed a field in a footpath through a piece of growing barley, and as I passed, I cropped it off in several places just before the heads appeared, so as to touch the top of the coming head. The mutilated barley, in due time, made its appearance, or was destroyed entirely, but no oats. Where I have lived the last forty years no barley of any consequence is raised, and I have heard nothing of such an improbable suggestion, but a similar notion has prevailed here that winter wheat will, when injured in the winter, turn

to rye—so at the South and West many contend that winter wheat in such circumstances will turn to chess or cheat.

In 1826 or 1827, being in the north-western part of Maine, I brought home winter wheat, and the next year sowed it in my garden, to test the correctness of this notion, not that I believed it, but to convince my neighbors of the error. I continued to sow that from year to year for many years, and nearly every year since have sowed that or some other winter wheat, and though often partially or wholly winter-killed, it never turned to chess or rye.

My impression is, that winter wheat being a tender plant, gets injured and killed, and gives way to rye or chess, which ever kind there may be of stray kernels in the ground. There being no chess here, rye is the only chance seed to supply the place of the killed wheat. My father used to raise barley and sell considerable quantities for seed, because he kept his grain clean and free from oats, and he was never troubled with its turning to oats.

He used to sow some barley mixed with wheat, under the impression that then prevailed that wheat with barley would not rust or blast as when sown alone. I know not if there was anything in that impression, but it was curious to see the operation of the practice. Sometimes for a series of years the wheat part of the mixture would dwindle and nearly all disappear, and then for another series of years the wheat would gain on the barley, and nearly exterminate it. This practice of mixing wheat and barley sometimes, so far as I recollect, operated well, and generally produced good crops, and it made good bread, but I believe he used to make the experiment on his best land. Barley was easily raised and was a sure crop on my father's farm formerly, but for the last twenty or thirty years it is almost an entire failure. The fact is difficult to amount for, as it was why the wheat should give way to barley and at other times the reverse.

RUFUS MCINTIRE.

Parsonsfield, Me., Dec., 1858.

THE SUNLIGHT.

In Lewes' "Seaside Studies," is the following fine passage: "And now, reader, as you ramble through the corn-fields, and see the shadows running over them, remember that every wandering cloud which floats in the blue deep retards the vital activity of every plant on which its shadows fall. Look on all flowers, fruits and leaves, as air-woven children of the light. Learn to look at the sun with other eyes, and not to think of it as remote in space, but nearly and momentarily connected with us and all living things. Astronomy may measure the mighty distance which separates us from that blazing pivot of life; but biology throws a luminous arch which spans those millions upon millions of miles, and brings us and the sun together. Far away blazes that great centre of force, from which issues the mystic influence, 'Striking the electric chain wherewith we 're darkly bound.' For myriads and myriads of years has this radiation of force gone on; and now stored up force lies quiescent in corn-fields of vast extent, once all pure sunlight hurrying through the silent air, passing into primeval forests, before man was made, and now lying black, quiet, slumbering, but ready to awaken into blazing activity at the bidding of human skill. From light the corn-fields came, to light return. From light came the prairies and meadow lands, the heathery moors, the reedy swamps, the solemn forests and the smiling corn-fields, orchards, gardens—all are air-woven children of light." Yet, after all, it is but an amplification of Stevenson's well-known reply to Buckland, on the power that was drawing the railway train.

For the New England Farmer

ON THE USE OF FRESH MANURE.

MR. EDITOR:—I saw a piece in the *Farmer* of Nov. 27th, signed "R. Mansfield," on "The use of fresh manure." He thinks that manure made and kept in a barn cellar is not as good as that thrown outside, where it receives the rains, snow, frost, &c. He says, "I believe it is good policy to have our yards for manure outside the barn, where swine can have free access to them during the daytime; and fifty per cent. more manure in value may be made than in the more modern way of keeping both manure and swine in a cellar."

Now I wish to give you some of my experience and practice in making manure in a barn cellar, and you may make such use of it as you think proper. My barn is seventy feet long by thirty-six wide, with a cellar under the whole of it. I keep from thirteen to fifteen cows, one yoke of oxen, one horse; sometimes two. I made from sixty to seventy loads of manure a year before I dug the cellar, which was six years ago; but since then I have made from 150 to 175 loads in the same time. My cellar is made so warm that the manure or loam does not freeze in the winter, and it is a fine place to keep my roots to feed to my stock in the winter. I commence tying up my cows nights, the first of Sept. I make from them, by the middle of November, from twenty-five to thirty loads of manure, which I cart out and put it in a heap where I intend planting the coming year, and cover it up well with loam. I then put in thirty-five to forty loads of loam for the winter; I put my loam under the barn floor, except eight or ten loads under the stable. I make a pen for my shoats under the bay, where I keep six through the winter. The horse manure is thrown into the pig-pen, and every few days a little loam, and in this way I make thirty loads first-rate manure. The middle of the cellar being the lowest, the water from the cow stable settles between the loam and manure, and is absorbed by the loam and thrown upon the manure heap once or twice a week through the winter. In this way, I save all the water and mix it well with the manure, which is carted out in the spring, on my corn ground. It is not uncommon to have the manure so saturated with the urine that it will drip from the cart, which I think is much better for the land than to be filled with the water from the eaves of the barn, snow, &c. I put no corn stubs or orts, from the cows' manger, into the manure, unless it is run through a cutting-machine.

You will see from the above that I increase my manure more than one hundred per cent. in quantity, and I believe more than twenty-five per

cent. in value, to every load, as you will see, by the increase of my crops. Previous to having my cellar, I raised from thirty to forty bushels of corn to the acre, and since, I have raised from fifty to seventy-five bushels per acre. I bought $100 worth of hay a year, but since I have had the cellar I have kept more stock and had several tons of hay left, notwithstanding I have turned out four acres of mowing to pasturing. I have not only got my mowing in good condition, but I plowed last spring four acres of an old pasture that produced but very little feed, manured it well, and raised fifty-five bushels corn to the acre.

Barre, Mass., Dec. 11, 1858. R. HAYNES.

REMARKS.—Isn't that a practical report from a *practical* man? It is such a report as we should expect from such an operation.

KING AND QUEEN.

BY L. B. ADAMS.

I am a king in my own domain,
And my little wife is queen,
And jointly over our realm we reign,
A royal couple, I ween.

Beauty and grace are the robes that flow
From her lily shoulders down,
The gems of truth on her bosom glow,
And love is her golden crown.

But her dainty hands are brown with toil—
Her cheeks with the breezes kiss,
And she works for a tiller of the soil
As if toil for him were bliss.

I am the king and the tiller too,
My farm is my proud domain,
And the will to dare and the strength to do
Are the scepters of my reign.

At my touch the teeming earth yields up
Her wealth for my feast and store,
The nectar of health brims high my cup,
My measure of bliss runs o'er.

O, ne'er was a happier realm, I ween,
Than ours, 'neath the arching sky,
And never a happier king and queen
Than my little wife and I.—*Michigan Farmer.*

HOW TO INCREASE THE VALUE OF A COW.

Every one who owns a cow can see at a glance that it would be profitable to increase the value of her, but every one cannot tell how to do it. We can, and we think that we can make it equally palpable to our readers. If a cow is kept for butter, it certainly would add to her value if the butter-making properties of her milk should be improved. In summer or winter this can be improved just as the yield of a cultivated crop can be improved by what is fed to each, and it is simply a question of will it pay, in manuring the one or feeding the other. Indian corn will add to the quantity and quality of the butter to a very sensible degree, and it is simply a question of easy solution, by experiment, whether it will add to the profit of the butter-maker to buy corn at one or two cents a pound, and convert a portion of it into butter at twenty-five cents a pound, or whatever the market price of corn and butter may be, and another portion of it into fat, and another portion of it into manure, for that is the natural result of the chemical change produced in the laboratory of the cow's stomach. The same result will follow any other kind of feeding. Good pasture will produce an abundance of milk, often as much as the cow can carry; but does it follow that even then it will not be profitable to feed her with some more oleaginous food to increase the quantity of butter just as it sometimes proves profitable to feed bees to enable them to store more honey. It certainly does appear to us that the value of a cow, feeding upon ordinary winter food, may be almost double by making that food suitable for the purpose of increasing the quantity of milk, if that is the purpose for which the cow is kept. Farmers generally understand that they can convert corn into beef, pork and lard, and some of them know exactly at what price per bushel it will pay to convert it into these substances: but does any one know at what rate it will pay to convert corn or any other grain into butter, or any other kind of feed into the dairy products? Is the whole business a hap-hazard one? We fear so. Some persons know that they can increase the saleable value of butter by adding the coloring matter of carrots to it. Does any person know the value of a bushel of carrots fed to a cow to increase her value as a butter-producing laboratory? Experimental proof upon this point would be far more worthy of agricultural prizes than it is to see who can show the largest sized roots; for by a few carefully conducted experiments we should be able to increase the value of a cow almost at pleasure.—*N. Y. Tribune.*

For the New England Farmer.

"VALUE OF SHEEP TO THE FARMER."

A selection entitled as above, (monthly *Farmer*, Sept., '58, p. 399,) has called forth some "Hints on Keeping Sheep," (*Farmer* for Nov., p. 499,) from J. WHITNEY, of East Sullivan, N. H. His communication contains many ideas of value, but seems to me not in all respects applicable to the text upon which he comments. There can be no doubt, as Mr. W. says, that "sheep are profitable to the farmer who has a broken and uneven farm, and his pastures have been suffered to grow up to bushes, or where the soil has become exhausted by excessive feeding, and will produce none (not *more*, as printed) of the grasses, except June grass or white-top. Land that has thus been reduced will keep sheep better than any other stock." This is claimed by the writer in question, and also, that sheep will give such pastures a smoother appearance, by eradicating the wild plants, so that good grasses may take their place. Whether white clover would come in, if continually cropped by sheep, I have my doubts, and agree with Mr. W. that a good pasture, producing clover, red-top and timothy, would, if fed by sheep alone for fifteen or twenty years, give, in the end, very little clover or timothy. The same would be true if fed constantly and closely by horses and cattle.

The proportion of sheep to other stock, should depend "on the character of the pasturage, and the proportion of the same fitted and desirable for tillage," if one would keep sheep "without in-

jury to the farm for other purposes." So says the first writer. On a fully improved farm, there ought to be little rubbish to consume. But we must take into account also, the value of the manure furnished, as well as the food consumed—nor forget that a starved sheep is no more profitable than any other half-fed animal. His statement may be considered entirely true only under peculiar circumstances, partly true under others, and that sheep may be more profitable than additional neat stock in other cases, while it may be entirely false in regard to some farms and circumstances.

In wintering sheep, it would be the poorest policy in the world to keep them entirely "on rubbish left by other animals." As Mr. W. says, "they may survive, but not flourish, without extra feed." I would rather feed my sheep first, and give what they refuse to other animals, than to pursue the contrary course. "Attention to their wants, the eye and thought of the owner," alone can make sheep profitable. "Division of the flock (according to age and condition) good shelter, with (bean and oat) straw and a little grain, will bring them to spring pastures in better order, than if kept together, with double rations of hay, one-half of which is wanted by the stronger animals, while the weak of the flock pick up but a scanty living, and oftentimes fail in that, before winter comes to an end."

I have taken up this subject, more because it is one that needs "stirring up," among us, and to commend to every one Mr. WHITNEY'S closing remarks, than in any spirit of controversy or fault-finding with his article. There are other points in regard to sheep-culture on which I may present views, hereafter, in their proper season.

Royalton, N. Y., 1858. J. H. B.

For the New England Farmer.

A TUMOR ON A COW'S BRAIN.

A very valuable cow belonging to Mr. Nathaniel Johnson, of Sturbridge, was killed recently, to put an end to her sufferings, and on opening her head there was found a hard tumor on the brain, but no disease in any other part. It appeared that the vitiated humors of the animal had settled on the brain, forming a hard excrescence, which must have caused the intense pain that gave rise to the singular symptoms of disease which were perceptible for some six or eight weeks. When first taken, she would turn her head towards one side, and sometimes turn her jaws slightly upwards, continuing in this position, at times, for several minutes. To use the common phrase, she acted strangely. When the spasms were not on, she would eat, chew her cud and give milk as usual, but would occasionally push with her head against one side of the stable, knocking off the boards; and although her flesh wasted away till she became mere skin and bones, yet, the night before she was killed, she burst open the barn-door, (requiring surprising strength in one so poor and sick) and was found lying on the ground in the morning. The latter part of the time she could neither eat nor drink, except what was put into her mouth by means of a bottle and the hand. Her tongue seemed to be paralyzed, and she could not suck in water.

As the difficulty gradually increased in severity, Mr. J. feeling concerned for her safety, consulted those who are reported to be skilful in treating the diseases of animals, but no one could tell what the matter was; some pronounced it horn-ail; others thought she had been hurt on the head or neck, or both, but there was no external sign of bodily injury. Mr. J. employed every kind of rational treatment he could think or hear of, with but little relief to the cow. In short, he spared no pains to cure her.

This case is considered to be so singular that Mr. J. is desirous of having it published in the *Farmer*, to elicit statements of similar cases, with their remedies, if any such be known. But to dissolve a tumor on the brain of a living animal is probably beyond the power of the healing art. Had the disease been known on its first appearance, it would have been an act of mercy to kill her, for she must have suffered for nearly two months a degree of acute pain which would, in the end, have caused her death.

In consideration of the loss, trouble and sickness of Mr. J., his neighbors have promptly made him a liberal donation, for which he feels exceedly grateful. C.

Sturbridge, Mass., Dec., 1858.

PROGRESSIVE AGRICULTURE.

The N. Y. *Observer* says of progressive agriculture:—"Under its influence, spring up tasty and convenient dwellings, adorned with shrubs and flowers, and beautiful within with the smiles of happy wives, tidy children in the lap of thoughtful age—broad hearts, and acts as well as words of welcome. Progressive agriculture builds barns and puts gutters on them, builds stables for cattle and raises roots to feed them. It grafts wild apple trees by the meadow with pippins or greenings,—it sets out new orchards and takes care of the old ones.

It drains low lands, cuts down bushes, buys a mower, houses tools and wagons, keeps good fences and practices soiling. It makes hens lay, chickens live, and prevents swine from rooting up meadows. Progressive agriculture keeps on hand plenty of dry fuel, and brings in the oven-wood for the women. It plows deeply, sows plentifully, harrows evenly, and prays for the blessings of Heaven. Finally, it subscribes for good religious, agricultural and family journals, and pays for them in advance, advocates free schools, and always takes something besides the family to the county fair.

LEAKS SIMPLY STOPPED.—The *Lynn News* says:—"Some years ago I had a leaking 'L.' Every northeast storm drove its waters in. I made a composition of four pounds of resin, one pint linseed oil, and one ounce red lead, applied it hot with a brush to the part where the 'L' was joined to the main house. It has never leaked since. I then recommended the composition to my neighbor, who had a dormer window which leaked badly. He applied it, and the leak stopped. I made my water-cask tight by this composition, and have recommended it for chimneys, windows, etc., and it has always proved a cure for a leak."

COOKED FOOD FOR FATTENING CATTLE.

Mr. Samuel H. Clay, of Kentucky, has been experimenting in feeding several lots of hogs, changing them from raw to cooked and from cooked to raw food, ground and unground. The *Valley Farmer* furnishes us with the following results:

Mr. Clay's experiments show, that to make pork on dry corn, one bushel gave, in one instance, a gain of five pounds and ten ounces. In changing the food, on the same animals, to boiled corn, one bushel produced a gain of fourteen pounds and seven ounces, and a bushel of corn ground and cooked, gave a gain of sixteen pounds and seven ounces; while in another instance, after a change from dry corn to cooked meal, the gain upon one bushel was but a fraction short of eighteen pounds.

These experiments, then, show an average gain of about three pounds, when the animals were fed on cooked food, to a gain of one pound when fed on dry corn. Or, to reduce the comparative cost of the gain per pound, estimating the corn at 28 cents per bushel, the following are the results: When the hogs were fed on dry corn, the average gain cost a fraction over 4½ cents per pound. The same animals, when fed on cooked meal, the gain cost a fraction over 1½ cents a pound, or when fed on cooked corn, unground, the gain cost 1 cent and 9 mills per pound, leaving but four mills, or less than half a cent, per pound in favor of cooked unground, or allowing but four mills per pound for grinding, exclusive of the greater time required to cook whole corn, over that which is ground. But to come to the point more definitely, we will reduce the price of the corn to 25 cents per bushel, (which is as low as may now ever be expected, except, perhaps, in some remote quarter,) and reduce the gain from two-thirds to one-half, for the difference between cooked and uncooked food, which will be equal to twelve and a half cents on each bushel of corn fed out, and see how the question will stand.

With a properly constructed apparatus and suitable feeding arrangements, one man can cook and feed out 100 bushels of meal in a day. To do this, his meal must be placed in bins so as to be conducted into the steam-vat without handling, and his feed-troughs so arranged that the slop will flow into them in the same manner, without handling. But if corn is cooked without shelling or grinding, two men would be required to manage the same quantity. In the first instance, then, there would be a saving of 50 bushels of corn, which, at 25 cents per bushel, is $12,50, to be offset by the labor of one man, one day, which, at $1,25 per day, leaves a profit of $11,25 in favor of cooking. But, if the corn be cooked whole, and requires to be fed out by hand, allowing two hands, at the same cost per day, there will still be a gain of $10.

But to simplify the question still further: Is it not cheaper to cook 100 bushels of corn than it is to raise 50 bushels? But besides a saving of one-half of the corn, by the process of cooking, there are numerous other advantages to be taken into account. The same weight is attained, according to the experiment above quoted, in one-third of the time, or we will reduce this also to one-half, avoiding the risk of accidents to animals on the time gained, the care and attendance in feeding, the advantages of weather in the earlier and more favorable season for feeding, together with other incidental matters not enumerated.

The conclusions, which are generally arrived at, are predicated upon the idea that prevails in regard to the cost of cooking food, according to the primitive methods employed in the East in a single kettle, or Mott's agricultural boiler. These are adapted only to small operations, and, of course, to depend on them, would incur considerable cost for labor, fuel, &c. But we should not forget that this is a progressive age, and the inventive powers of our countrymen are adequate to any emergency of the times, or demands of the age. Every one who is acquainted with distilling, knows that many hundred of bushels of corn go through the destructive process, in one of these establishments, in a single day; and if the same quantity was only to be prepared as food for swine, with boilers constructed alone for that purpose, the same work could be performed with greater facility, and less labor. To provide a boiler and steam-vat of a capacity suited to extensive feeding, with the necessary fixtures, would cost several hundred, or perhaps a thousand dollars, but like many other branches of business, we are convinced that the larger the establishment, the more profitably it may be conducted, and that, not only may the cost of the fixtures soon be saved, but a large per centage of the corn usually fed.

We are perfectly satisfied from our own repeated experiments, which have been fully sustained by those conducted by others, that with a suitable establishment of capacity adapted to the end in view, a great saving may be secured by this method of preparing food for swine, and we believe with scarcely less profit for beef cattle. We wish some philanthropic, enterprising farmer would take the matter in hand, and make an experiment on a dozen or more bullocks, through a full course of fattening on steamed food, both grain and hay, with an equal number fed in the ordinary way.

If grain is not to be cooked, we still contend, as we ever have, that it should be well ground, whether fed to hogs, cattle or horses, and to cattle and horses it should always be given in combination with the coarser food.

For the New England Farmer.

WORCESTER COUNTY.

TRANSACTIONS OF THE WORCESTER AGRICULTURAL SOCIETY FOR THE YEAR 1858.

By the kindness of a friend, I have the favor of this interesting annual. Accustomed as I have been for *forty years* to look to the heart of the Commonwealth for instruction in agriculture, I always glance my eye over the pages of their Transactions with deep interest. The present pamphlet contains much that is instructive and interesting. Several reports are elaborate and sensible, particularly on Milch Cows and Working Cattle—objects for which the county has long been famous. The number of fine milch cows exhibited at the show was much less than I should have expected. There was awarded for

cows, $46; oxen and steers, $108; horses, $285. What could have induced the discerning farmers of Worcester to apply so large a portion of their funds to the horse, is beyond my power to conjecture. I admire a good horse, but I can see no reason why he should be entitled to a larger award than a fine pair of working oxen, or a fine herd of milch cows. This *horse mania* is running away with our judgments and our money also. I am sorry that it is spreading so wide and so deep among the substantial yeomanry of Massachusetts. It should be corrected. ESSEX.

December 13, 1858.

SPIRIT OF THE AGRICULTURAL PRESS.

LONG WHITE FRENCH TURNIP.—A writer in the *Germantown Telegraph* has given this turnip a fair trial, and concludes that the common yellow ruta-baga is far preferable to grow, either for stock or for culinary purposes.

FALL MANURING FOR CORN.—Another writer in the *Telegraph* states that he has long been in the practice of hauling out manure early in the spring for corn, directly from the barn-yard, and in its unfermented state, and plowing it under deeply and thoroughly. He calls *ten* inches deep plowing. He says—"I have tried hauling out and spreading manure in the fall for corn; but if I can trust my own observation, never with the beneficial results as to the crop or to the land which were obtained by the former practice." It is his opinion that decomposed manure placed near the surface *will give an early growth to corn* by its more immediate action, but that unfermented manure properly plowed under, *will finish a crop with a heavier yield, and leave the land* in higher fertility, than the former method.

This is an important matter, and ought to be settled by numerous well-attested experiments in in various localities.

AGRICULTURAL EDUCATION.—The *New Jersey Farmer*, published at Trenton, in introducing to its readers a recent letter of Gov. Wright, of Indiana, describing an agricultural school in Germany, says—"Every profession has its school—why agriculture should be left to glean its learning as best it may, we cannot understand. If schools are necessary to train the clergyman, the lawyer, the doctor, the merchant and the artist, is it not eminently proper that agriculture, which depends so entirely for its complete success upon a knowledge of the natural sciences, should also have its schools?"

Certainly it is, and it passes our comprehension to know why, among farmers themselves, such prejudices exist against everything that is to qualify the young farmer for his profession, except the mere act of his working upon the land with his own hands. It is breath spent in vain to talk about managing a farm well theoretically. Well might as well expect the body to grow and flourish without its vitalizing breath; theory and practice must go together, and it is well if the *practice* is quite thorough before we pause to theorize much. That proper schools for instruction will afford the young farmer important aid in the pursuit of his business, will not admit of a doubt, it seems to us, in any unprejudiced mind. What such schools shall embrace, and how they shall be managed, are questions not yet settled among us.

COWS FOR MILK.—Mr. C. N. BEMENT, in speaking of Devonshire cows, in *Emery's Journal of Agriculture and Prairie Farmer*, published at Chicago, says, incidentally, that he "has found great difference existing in all breeds of cattle; some cows run to fat and are spare milkers; the lean and well-formed are apt to be good ones. Some digest their food better than others, and these do better on the same pasture or quantity of food; some feed faster and more constantly, and these are apt to be the best milkers. * * * There appears to be as much diversity among cattle in these particulars as among men and women who may daily sit together around the same table. No error can be greater than that of believing a cow can give rich milk upon poor, lean, spare diet. There must be in the food that which will supply the materials of which milk is composed, or else it must be impossible for the cow to produce it. The better the food, the better and the richer the milk."

That is the true doctrine, plainly expressed. It is just as impossible to get large quantities of rich milk from a cow that is meanly fed, upon innutritious food, as to "make a good whistle from a pig's tail."

SOUTH DEVON SHEEP.—Col. L. F. ALLEN, editor of the American Herd Book, of Black Rock, N. Y., writes as follows to Mr. Wentworth, of Chicago:—"I hope your Illinois people will appreciate the magnificent *South Downs* you have introduced among them. It is the only kind of mutton for a good table. * * Half and three-quarter sheep revolutionize the article altogether in quality and flavor. I speak from years of trial. A *really good* saddle of mutton is scarcely excelled by any other meat."

THE APPLE CROP IN WALTHAM, MASS.—The *Waltham Sentinel* gives an account of the apple crop in that town this season, but only speaks of *winter* apples of the first and second quality. The cider apples and others not marketable must considerably swell the amount. The name of the person, and quantity raised by each, is given. We find that one person had 850 barrels, and two others 700 and upwards. The total number of barrels of winter apples is put down at *twevle*

thousand, the average wholesale price of which has been $2,00 making the round sum of $24,000, for this town, for one item of agricultural products in a single season.

The population of Waltham is, to a considerable extent, engaged in manufactures of one kind or another; yet we doubt whether, among them all, any investment of capital of an equal amount has produced results so favorable as the investment in the apple trees.

For the New England Farmer.

GOLDEN EAGLE.

AQUILA CHRYSAETOS.

The most hilly and mountainous parts of the country are chosen by this bird for his residence, particularly where there are over-hanging precipices; there, in the dizzy height, on some bold rock, he takes his stand, motionless and erect, with his stern, penetrating eye glancing over the boundless expanse of forests and fields; upon such high precipices, or on some blighted tree of the wooded-mountain, a pair of these birds will sit for hours, and not unfrequently the whole day, especially when they have gorged themselves with food. After such times of inactivity, they will launch into the air, and rise in a spiral flight above these stupendous heights, until they appear like mere specks, or are wholly lost to sight; having attained to the desired height, they sail in an obliquely downward course with the velocity of the wind, until within one or two hundred feet of the earth, when they again change their mode of flight and sweep in circles over hills and valleys in search of food.

These eagles usually hunt in pairs. There is a peculiarity in their mode of hunting which is not resorted to by other birds of prey. Like the lion, who lies in ambush for his coming victim, so he hovers over the form of the hare, or the bed of other animals, waiting for their appearance. I once saw a pair hunting in company, and while sailing over a hill, one of them, on discovering a burrow of the common grey rabbit, immediately suspended himself in the air without the least perceivable motion of his body or vibration of his wings, which he kept widely extended, and on which he floated with the same ease that he would rest upon his perch; in this position he remained a great length of time until the animal, unconscious of any harm, ventured from his cover; at first, but a part of him appeared; the eagle, still poised, would stretch down his claws, then draw them up again, still floating silently; the animal now hopped quite out of his hole, stood upon his hind legs, scanning every object with his large eyes, and moving in every direction his large ears, to detect an enemy if one was around him; at last, feeling assured, none lurked about him, he hopped again which brought him to full view, and farther from his burrow. Hark! *Whush-ush-ush*, down from his height, like the whizzing sound of a rocket, shot the eagle upon the unwary victim, pressing him down with his strong feet and driving his talons deep in his quivering flesh. The scream of despair, as the blood oozed through his soft fur, was soon drowned by the eagle's scream of success which was answered by his mate; then rising with him, still struggling in his grasp, he carried him to some convenient place, where both he and his mate might devour him at their leisure.

Danvers, Mass., Dec. 1, 1858. A. FOWLER.

REMARKS.—We are obliged to our correspondent for the brief and graphic descriptions which he has occasionally sent us of our native birds, and hope he will find leisure and inclination to continue them. We wish we could lay before all lovers of natural history the splendid paintings of birds, their nests and eggs, which have been produced by his own hands, scarcely equalled, in our opinion, by any thing yet done by the most accomplished artists of this or the old countries.

CHARITIES THAT SWEETEN LIFE.

"It is not much the world can give,
With all its subtle art,
And gold and gems are not the things
To satisfy the heart.
But O, if those who cluster round
The altar and the hearth,
Have gentle words and loving smiles,
How beautiful is earth!"

For the New England Farmer.

CUTTING CORN STALKS.

Your correspondent "Essex," recently, after a quotation in favor of leaving the stalks on the corn, asks the question, "Has there been any well conducted experiments to determine the fact?" I do not know what he would consider a well-conducted experiment. I have tried it several times. I cut the stalks on eight rows through the field as soon as the tassel was dry, and the next eight rows I left with the stalks on. I gathered each separately, and husked it out. In both cases I had the most good sound corn—both by measure and weight—*on the rows where the stalks were cut*, and the most soft corn on the rows that were not cut!

This year I had one field of about four acres of corn. I had cut the stalks on about one acre before the storm which beat the corn down so badly. On the other three acres the stalks were not cut. The part where the stalks were cut was not injured, while that part of the field where the stalks were not cut, was laid almost as flat as though it had been rolled down. I think the loss on the part blown down, of good sound corn, was at least ten per cent.

I would cut the stalks from heavy corn to save it from being blown about and broken down by the wind, if for nothing else.

Hollis, Oct. 13, 1858. E. EMERSON.

SCHOOL OF VETERINARY MEDICINE AND SURGERY. GEORGE H. DADD, Principal.—This school was established in Boston, in 1849, and is attracting more and more of the public attention, as its objects are better understood. The tickets for a course are $100. The school is established at No. 55 Salem Street, Boston, Mass.

For the New England Farmer.

SYSTEM IN FARM MANAGEMENT.

MESSRS. EDITORS:—Order is a necessary element in the success of every man, but with no class is its strict observance more requisite than with the farmer. The profits of farming, like other business, depend almost entirely upon the system that is pursued, and the order maintained. No business will ordinarily prosper under bad management. If a merchant persist, for any length of time, in a poor system of management, he is almost sure of a failure. If a mechanic pursues the business of his trade without taking the care necessary to perform every thing in a systematic manner, success will never crown his efforts, and in fact, in whatever business a man may be engaged, unless he is governed by some system in the labor he performs, he may as well conclude that his business will not be a paying one, however prosperous it might be under good management. But as I have said before, with no class of persons is the strict observance of system more requisite than with the farmer. If he be an idle and shiftless man, or if he does every thing in a wrong time and in an improper manner, if he allows his buildings to go without the repairs necessary, and decay for want of a few dollars expended by way of repairs, if his walls are left to tumble down and his fences are neglected until his cattle easily gain access to and destroy his crops, or if he suffers the weeds to overrun his farm, and in this allows his soils to be exhausted without himself receiving any remunertion for the same, or if he pursues the skinning system, and suffers his farm to deteriorate, he will undoubtedly have to complain that farming is a dull and profitless business. But if he has a system about all his labor, seeing that it is done when required, and in an unexceptionable manner, you will find him undoubtedly an intelligent, successful, prosperous and happy man.

A systematic farmer will look through all the operations of the year from the beginning; his calculations are made before hand; hence he can take advantage of the labor to be performed; he can tell you how much labor it will be necessary for him to expend in order to raise and secure a crop, and the probable advantages to be derived from raising the same.

No systematic farmer will allow his manure to be wasted by allowing his cattle to roam about the street, and leave the very main-spring of the farm to waste its strength without receiving any benefit from it,—but on the contrary, he will conduct his business with direct reference to the manure-making advantages connected therewith, and his compost heap will compose a prominent place among his farming operations.

Lebanon, Ct., 1858. H. G. PALMER.

CIVIL ENGINEERING, by Messrs. SHEDD & EDSON, Iron Buildings 42 Court Street, Boston.—These gentlemen are well qualified to discharge the various duties of their profession, and are prompt in their execution. They are ready to attend to the laying out and to superintend the construction of railroads, common roads, bridges, wharves, &c., or to the designing and laying out cemeteries, and grounds for country residences. They also make surveys and maps of farms, house-lots and land in any form. They have had large experience in underdraining, including laying out and constructing. Drafting of all descriptions they do with great accuracy and facility, and also prepare plans for the Patent Office.

HEADWORK IN FARMING.

It is surprising how much muscular labor is wasted every year, which might be saved, or better directed. This is true of all kinds of business, and not the least in farming. For instance: how many farmers toil on, year after year, with scanty or imperfect implements of husbandry. The modern improvements, which save much labor and do the work cheaper and better, they will have nothing to do with. Improved varieties of seed, they hold to be, almost without exception, humbugs. Draining and subsoil plowing are ranked in the same catalogue: *they* are labor lost; but manuring cold, wet lands, and plowing them late in summer a few inches deep, and gathering scanty crops—*this* is *not* labor lost! Rotation of crops, and manuring lands with reference to the grains or roots to be grown on them, they consider something like book-farming—a very dangerous thing!

We never could see why farmers should not think for themselves, and be able to give a satisfactory reason for every process they undertake. We never could see why they should not endeavor to improve in all farming operations, to learn the very best way of doing everything, and then do it so. It is told of a certain backwood's farmer, who had not yet found time to clear the stumps from his fields, that his boys complained bitterly of their troubles in plowing and harrowing—the old-fashioned "drag" especially troubled them by its frequent overturnings while plunging among the stumps, and needing to be set right side up at every few rods. "Boys!" said the enraged farmer, one day, "take that harrow over to the blacksmith, and tell him to make all the teeth twice their present length, and sharp at both ends, and we'll see what that'll do!" The thing was done: the teeth now pointed both ways, like those of a revolving rake. "Gee up, Bill; now go along." "But, father, it has upset again, as bad as before." "Never mind, boy; go right ahead; it will work well either side up. See, now, what comes from a little thinking!" And sure enough, it did work, and the field was harrowed in spite of the stumps. We might have selected a more dignified example of the use of head-work, but this homely story will answer our purpose.

In the matter of rotation of crops, there is need of forethought and management. Some farmers neglect to manure largely, because of its expensiveness; they would like to underdrain more extensively, and to subsoil plow their lands, if these things did not cost more time, labor and money than they think they can spare. But it costs no more to follow a good system of rotation of crops, than it does to carry on a farm without any such plan. Yet such a system may bring the farmer three-fold greater and better crops. Nor

in devising such a plan, has he got to depend entirely on his own experience or sagacity. Books and agricultural journals are at hand, containing the results of other men's experience, and all he has to do is to adapt such information to the wants of his own case. A very little head-work of this sort would pay well. It would pay in clean cultivation. Chess, red-root, quack-grass, Canada thistles, butter-cups, daisies, and what not, would hide their heads; and grubs, wire-worms, and all manner of insects, would rapidly diminish, if not wholly disappear. It would pay in the increased and prolonged fertility of the land, and in more bountiful crops.—*Am. Agriculturist.*

For the New England Farmer.

"AGRICULTURAL PROGRESS."

MR. EDITOR:—Where can your correspondent have been the last fifty years—asleep with Dr. Franklin's fly? I should suppose he had just waked out of a half-century nap, from the arguments he uses against the application of steam to agriculture. They are precisely the same arguments made use of fifty years ago, against the use of steam and water power in the manufacture of cotton and wool, and subsequently, to the application of steam to locomotion.

It was said, "people would be collected into manufacturing villages, and become slaves to the loom-lords. Our daughters, not finding employment at home, would assemble in these villages, and would lose their health and innocence. That those who now live by spinning and weaving, would be thrown out of employment, and become beggars." When it was proposed to apply steam to the moving of rail-cars, it was said that "stage-coaches and baggage wagons were to be thrown out of business, and there would be no demand for horses, and the farmers would have to give up the raising of them, and that the tendency of the use of steam was to lower the rate of wages." But have the results confirmed the forebodings of the fogies of those days? Have our daughters lost their innocence in the cotton mills, and become slaves to their proprietors? Have the spinners and weavers in the family found any want of employment? Has the rate of wages been reduced? The truth is, there are more horses employed in transporting passengers and freight to and from the railroads, than were formerly employed in running stage coaches and baggage wagons, and horses are worth much more, and pay much better for raising, than they did before the iron horse was invented.

The population of Massachusetts has more than doubled in forty years, and yet the rate of wages has more than doubled in that time. So far from people having been thrown out of employment, they have imported thousands of male and female laborers, and pay them, especially females, more than twice as much as they did forty years ago, and the comforts and conveniences of life enjoyed by the laboring classes have increased in at least an equal ratio.

Almost every labor-saving machine has had to encounter the same objections. The first sawmill erected in England was burned down, because, it was said, it would deprive the hand-sawyers of employment. The farm-laborers in that country, for years, steadily opposed the introduction of farm machinery of all sorts, notwithstanding their wages and their comforts were as steadily increasing.

Now that a long experience has proved that all this croaking about the injury done to the laborer and the small proprietor, by machinery, is without any foundation, I was surprised that a man of the intelligence of your correspondent should lift his warning voice against the application of steam to agriculture. Why does he not object to its use in driving the printing press, and in manufacturing paper? It would take twenty men to turn the cranks of the presses that are moved by one small engine. Twenty families are thus deprived of bread! The gentleman need not borrow trouble lest the hills and valleys of New England should be swept of their varied beauty, and reduced to broad levels, for the manufacture of corn and potatoes by steam.

If capitalists, associated or single, can profitably cultivate the earth by steam, it must be where the surface is adapted to such culture. If it can succeed on such portions of the earth's surface, why, let it. I have only to say, "God speed the plow," whether moved by the power of steam or muscles. In either case, bread will be increased, and food for the laborer and his family will be cheaper. If steam can be made to work the soil, and gather the crops, and turn the mills and the presses on the broad plantations of the South, more economically than negro power, why, I say again, "God speed the plow," even if it be a steam plow; and who knows, Mr. Editor, but this is to be the great engine by which slavery is to be ended? When the steam plow is perfected, will not some Yankee capitalists fire it up on the pampas of Texas, and raise sugar at a cheaper rate than it can be done by human muscles? Who can tell but we shall yet *do our abolition by steam?* Seriously, I think the sugar-growers of Louisiana have quite as much to apprehend from the steam plow, as have the small farmers of New England. STEAMER.

Dec. 18, 1858.

For the New England Farmer.

UNDERDRAINING—"IT WILL PAY!"

MR. EDITOR:—Last fall I wrote you under the title, "Underdraining—will it pay?"—that I intended to underdrain a piece of wet, cold, unproductive land, and asked your advice in the matter. It was kindly given, for which I would return many thanks.

At that time I had a presentiment that it would not be a paying operation, but as the land was nearly worthless, as it was, I resolved to underdrain it; which I did with stone, sinking the ditches about three and one-half feet deep. The bottom of the drains was constructed like an ordinary culvert, then filled with cobble stones to one foot of the surface; upon these stones, shavings or evergreen boughs were placed, to prevent the dirt from filling the interstices, then covered with dirt, reserving the sod for the barnyard.

The result, I will briefly state. The piece drained contained a little less than four acres. Last year it was mowed, and produced but two

loads of poor, sour hay and brakes, hardly worth cutting, but it was an average crop for the land. This spring the land was dry, and we were enabled to work it early in the season. We plowed under about twenty-five ox-cart loads of barnyard manure to the acre, and planted with corn the 15th day of May. The ground was dry and in good condition for receiving the seed, while many pieces considered "dry land" were much too wet. The corn was planted three and a half feet apart each way, hoed twice, and received a top-dressing of plaster and ashes. It was cut up the 10th and 11th of September, when it was found ripe and sound. We husked from the piece 440 bushels of ears, all merchantable corn.

My neighbors concur with me in opinion that this crop is worth more than the aggregate crops that the land has produced for the last fifteen years. It is now in a condition to produce abundantly for a series of years without any extra outlay. This crop has paid me the whole expense of underdraining, and I am so well pleased with the experiment, that I have had a number of ditches dug upon another piece adjoining, and intend to use drain tile instead of stone. The tile drain is cheaper, and from what information I can obtain, I think it much more durable.

Drain tile of a superior quality are now manufactured by Lucius G. Spencer, of this town, and sold at Albany prices. The farmers of Windsor county are waking up on the subject. I am informed of one man who intends to lay four hundred rods from the first kiln.

JAMES R. WALKER.

Springfield, Vt., Nov. 5, 1858.

THE REASON WHY.

t was a perplexing and infelicitous circumstance which happened to discomfort and discomfit the good housewife, who had fattened a fine young turkey for her husband's delectation, boiled, as was his "weakness," with the accompaniment of a savory sauce. Two or three days before his death, (the turkey's,) a box of household pills fell by accident into the yard, where the bird performed his daily perambulations and gobbling. He picked up the kernels of anti-bilious corn and survived their effects until his decease, when he was committed to the pot as the *piece de resistance* of a sumptuous dinner. But he would not boil tender: hour after hour the hot bubbles burst around him, but all to no purpose; the harder and the longer he was boiled, the tougher and more uncarvable he became. At length, however, he was served up, and a doctor, a next door neighbor, who was a guest, was requested to solve the mystery. "We b'iled that turkey six long hours, doctor, by the clock," said the down-east hostess, "and yeou see how awfully tough he is neow. Could it be the pills, d' yeou think, doctor, that I was tellin' you about his eatin'?" "Undoubtedly, madam," replied the doctor; "it would not have made the slightest difference if you had biled him two days; there was no 'bile' in him, madam!" An explanation equally professional and satisfactory.—*Knickerbocker.*

NEW HAMPSHIRE JOURNAL OF AGRICULTURE. —We have before us the second number of a new paper with the above title, published at Manchester, N. H., by Messrs. GILMORE & MARTIN. It is issued weekly, in folio form, the agricultural department edited by E. BREED, and the educational and miscellaneous by MOSES A. CARTLANDS. We have looked over the two numbers published with some care, and find them filled with useful and substantial articles on a great variety of subjects. The editors seem to have ability, industry and energy, and if their efforts are encouraged, the *Journal of Agriculture* will not fail to exert a salutary influence both upon the Soil and the Mind.

A CURIOUS QUESTION.

It is a singular illustration of the inexactness of agricultural knowledge, that the question how many seeds there are in the pound of our commonly cultivated field plants, should still remain to be answered. It is plain that the answer will not necessarily affect farm practice—for the quantity of seed which it is proper to sow per acre, is a matter to be determined by experience, not by argument apart from trial; and yet surely it is most desirable to compare the number of the seeds we ordinarily sow with that of the plants we raise. If in ordinary practice, 1,200,000 seeds of wheat are sown on every 40,000 superficial feet, or what is more extraordinary, fifteen to eighteen million seeds are scattered on the same extent, about three to every inch of land, it is surely well to let the farmer know it. He knows very well he does not raise so many plants as this—and struck, as he must be, by the enormous disproportion between the means he uses and the result he gets, he will inquire into its causes.

The turnip seed employed per acre, numbers from 600,000 to 1,000,000, according to the kind and quantity adopted; this, if the rows are two feet apart, is two or three dozen seeds per foot of row, where a single plant alone is to be grown. No doubt nothing like so many generally come up, but then there is a great destruction by the hoe, which will explain much of the discrepancy in this case. What, however, becomes of the 18,000,000 seeds of flax which are commonly—of the 6,000,000 seeds of oats which are sometimes sown per acre? There is no destruction by the hoe in either instance here. A single ear of oats may contain 100 grains—a single plant will generally include half a dozen ears, but if 6,000,000 plants should yield as much as this implies, they would produce 100 loads of grain. Instead of 600 seeds apiece, they yield but half a dozen each to produce an ordinary crop of oats. It is plain that five-sixths of the seed, or of the plants that they produce, are killed in the cultivation of the crop; and the proportion is vastly greater than this in the case of other plants. What is the ordinary seeding of the clover crop? Eight pounds of red clover, four of white clover, and four of trefoil may be sown—that is at least 6,000,000 seeds per acre—a seed on every inch of land—but instead of 144 are there generally half a dozen plants on every square foot of the clover field?

There are about 25,000 seeds of sainfoin in a

pound of "rough" seed, as it is called, and it weighs some 20 lbs. per bushel; four bushels is an ordinary seeding, and they contain 2,000,000 seeds, or 50 per square foot of land. This is the number, too, of seeds in an ordinary seeding of vetches. It is manifest that in both these cases there is an enormous destruction either of young plants or seed; and these are the two great divisions under which the causes of this anomaly must be classed: faults of seed and sowing, and faults of cultivation. We are enabled, by the assistance of Messrs. Rendle, of Plymouth, to lay before them the following answers to the question—how many seeds to the pound?

Name.	No. of seeds per lb.	No. of lbs. per bush.
Wheat	10,500	58 to 64
Barley	15,400	48 to 56
Oats	20,000	38 to 42
Rye	23,000	56 to 60
Canary Grass	54,000	
Buckwheat	25,000	48 to 50
Turnip (Rendle's Swede)	155,000	50 to 56
Turnip (Cornish Holdfast)	239,000	"
Turnip (Orange Jelley)	233,000	"
Cabbage (Scotch Drumhead)	128,000	56
Cabbage (Drumhead Savoy)	117,000	50 to 56
Clover (Red)	249 600	60
Clover (White)	686,460	59 to 62
Rye Grass (Perennial)	314,000	20 to 28
Rye Grass (Italian)	272,000	13 to 18
Sweet Vernal Grass	923,200	8

Scotch Paper.

For the New England Farmer.

BEE HIVES.

MR. EDITOR:—I have a suggestion to make respecting bee hives on Mr. Quinby's plan. I like the leading idea of his plan, but not the application of it. In his hives, the bees are obliged to store all their surplus honey in boxes placed on the top of the hive, and they must climb up through the hive, when heavily laden with honey, to get to the boxes. This must involve an immense amount of labor for them; at any rate, it seems to me that it must be as difficult for them to climb, as it is for a man who is carrying a heavy load, and I think it is rather worse for them to have to store honey on the top of the hive, than it would be for us to have to store the products of our land on the tops of our houses, for they are collecting and storing all the season, whereas we are only a part of it.

Instead of placing boxes on the top, why not have a small hive, or large box, to set by the side of the hive, and when it is full, open a communication between the two, and allow the bees to store their surplus honey in it just as Mr. Quinby has his stored in boxes on the top?

In an article published in the *Farmer* not long since by "Amicus," he remarks that he has a very simple contrivance to aid the bees in supporting themselves in the hive until they can commence building their comb. Will not "Amicus" please to let the readers of the *Farmer* know what this contrivance is? PROGRESS.

Leominster, Dec., 1858.

THE VIRGINIA FARMERS' JOURNAL. Richmond, Va., M. S. CROCKETT, Editor and Proprietor.—This is a new journal, handsomely printed, on fine paper, issued once a week, and is devoted to agriculture, news and miscellaneous reading. We like the editor's "Salutatory," as he seems to appreciate the responsibilities of the position he assumes, and also the wants of the people of his State. From the ability manifested in the articles in this first number, we cannot doubt but the *Farmer's Journal* will become an important help in the Homes of the Old Dominion.

THE MEADOW LANDS OF THE CONCORD RIVER VALLEY.

MEETING OF THE PROPRIETORS AT CONCORD.

It is not generally known throughout the State that thousands of acres of meadow land on the Concord river, from Billerica to Framingham, have been flooded by means of a dam at the former place, so as to seriously damage those lands. The law granting the right of the water power at Billerica was such that the proprietors have ever been unable to obtain redress through the courts. Several cases, growing out of this state of things, have been in litigation for years. The amount of land damaged by these overflows is from ten to fifteen thousand acres, all the way up the river as far as Framingham. The mill proprietors brought a suit against the city of Boston for diverting a part of the Concord river from its natural course, and reservoirs were built above from which water was sent down when needed. This usually happens in the haying season, and is another great source of damage to the owners of the meadows.

Recently an attempt to unite all the interests upon some plan for redress has been made. A preliminary meeting was held some weeks ago, and a committee was then appointed to consider the matter and report something definite.

A meeting was held December 27th, at the Town Hall, in Concord. About two hundred farmers were present, though this is but a small part of the number interested in the lands. The mill privilege at Billerica is now owned by Mr. Talbot, and he was present, accompanied by his counsel, but took no part in the meeting.

The meeting was called to order at one o'clock by Simon Brown, Esq., of Concord, and, on motion of Samuel H. Rhoades, Esq., of Concord, a committee was appointed to report a list of officers for permanent organization. Simon Brown was chosen President, Col. David Heard, of Wayland, and seven others, Vice-Presidents, and Mr. R. F. Fuller, of Wayland, and Dr. Joseph Reynolds, of Concord, Secretaries.

Mr. Brown opened the question with a clear statement of the position of the proprietors of those meadow lands. He said the first settlers in this town and vicinity had been attracted by its beautiful river and the fine meadows skirting it, which were a yearly source of wealth to the inhabitants. He said they came here to devise some means of obtaining redress. All they wanted was justice, and they came together with the kindliest feelings towards every man. He urged those who had an interest in this matter to organize—to take a stand, and raise their colors and nail them to the mast. (Applause.)

Col. David Heard, of Wayland, said he was glad to see so many interested in a question in which he had been working for forty years. Some

young men, he said, had run into the idea that these meadow lands were never valuable, but he knew better. He found in an old Assessors' book of the town of Wayland that that town assessed taxes on 1200 acres of meadow. Some of these lands had come into *his* possession at the rate of $75 an acre. These lands, he said, had been stolen inch by inch, under the law, if it could be called law, which had kept them out of their just dues. He said he had been entrusted with much responsibility in the law suits that had been carried on, and he had no doubt but he might have raised a company at any time to have torn down the dam, and allowed the owner to sue for damages. But the people had forborne continually through their defeat. He said he was determined to continue the suit as long as he had the means. Besides this, the Cochituate reservoirs were let loose in haying time, when the water was low, and this did serious damage. In fact, he said, they had a dam at both ends, and a curse between them.

Mr. Brown, the chairman, added a few remarks, in regard to the damage done to lands owned by him. Rich and fertile bottom lands were rendered nearly valueless.

The committee, appointed at a previous meeting, reported the following series of resolutions, upon which remarks were invited:

Whereas, it is believed by many owners of land upon the Concord River and its tributaries, that their lands have been of late much more injured than formerly by inundations caused by obstructions, by dams or otherwise, and by retaining the waters in *reservoirs* and suddenly releasing them in the warm season;

And, whereas, in various other parts of the Commonwealth, as well as in this county, great destruction of crops, and great injury to health, is produced by interference with the natural flow of our streams and rivers, whereby the drainage and cultivation of vast tracks of most valuable lands are prevented;

And, whereas, the maintenance of dams and other obstructions is a fruitful source of litigation, and so an occasion of great expense, both to land-owners and mill-owners;

And, whereas, it is believed that the peace of the community, and the security of land and mill owners, and the interests of agriculture, would be promoted by carefully ascertaining and defining, and by publishing by record or otherwise, the legal height of all dams, or other obstructions, on all our streams and rivers, and of all privileges, limitations and restrictions incident thereto; therefore,

Resolved, That a Committee be raised to investigate and report at a future meeting what dams or other obstructions are maintained on the Concord River or its tributaries, and whether any of said obstructions are illegal, giving such information as may be obtained of the claims, legal and illegal, of mill owners and others who maintain them.

2. That it is expedient that an act of the Legislature be passed, to provide for defining and recording the height of all dams and other obstructions on all streams and rivers in the Commonwealth, and of all privileges, limitations and restrictions incident thereto.

3. That the interests of agriculture require that provision be made by law, so that in proper cases dams and other obstructions to the natural flow of the water may be removed or lowered, or restricted in their use as to the season of the year or otherwise, upon just compensation to be paid by the parties benefited to those injured by such proceedings.

4. That this meeting are determined fully to investigate the complaints of land-owners on the Concord River and its tributaries, and to persevere by all lawful means to protect the rights of land owners, the health of the community, and the interests of agriculture, against all illegal encroachments of those who control the dams and other obstructions thereon; and further, to procure such legislation as may be necessary to relieve our most valuable lands of the curse of a second deluge, whether caused by legal or illegal obstructions.

The following resolution was afterwards added, on motion of Mr. R. F. Fuller, of Wayland:

Whereas, The special remedy prescribed by the statute for the flowage of lands on the Concord River by the proprietors of the Middlesex Canal has been in such a form and so limited in point of time, under the construction which has been given to it by the Supreme Judicial Court, as practically to furnish no remedy whatever; therefore,

Resolved, That adequate remedies should be provided by the Legislature for injuries to land-owner on the Concord River and its tributaries for the damage annually done by the flowage of their lands, and furnishing, as the general mill acts do, compensation year by year for the annual injury to the land and the crops.

Mr. R. F. Fuller, of Wayland, said he was one of the meadow proprietors, and he sympathized entirely in the spirit of the resolutions, as he presumed every man who owned any of the meadow land would. He believed that the only redress to be had was from the General Court. The courts could not award justice unless the law allowed it, and in this case the law-makers had been at fault. The act giving leave to build the canal provided that any one receiving damage thereby should sue within one year and in the Court of Sessions. That court was abolished about the time the act was passed, and the Supreme Court had held that in the above provision the damage referred to the "source of the damage," which in this case was the building of the dam. Under the present laws no redress could be had.

Dr. Joseph Reynolds, of Concord, read from a work descriptive of Middlesex county, as it was when first settled, and for years afterwards, showing the wealth of meadow land then existing. He presumed that the meadows on the river now were not worth more than half as much as they were forty years ago, or possibly twenty-five years ago. He said thousands were suffering from this evil, which was continually increasing, and it was only to favor a very few.

Col. Heard said there was one consideration not yet touched upon. The stagnant waters had already shown their pernicious effects upon the atmosphere; and farms finely situated in Wayland had been sold at one-third their former price, on this account. These, he declared, were by no means rare cases.

Mr. Barker, of Weston, corroborated the remarks of preceding speakers. He owned a meadow which was uncommonly high, and he had thought that it could never be damaged by water. But for the last few years his meadow had been worse than worthless. He had paid taxes and received no income.

Mr. Heard, of Wayland, said he did not own an acre of meadow land, but he was interested, and so was every person who lived on the banks of the Concord river. If the evil should be allowed to continue, the inhabitants would be driven back from the river banks. The stench from the river was sometimes very bad. He looked upon it as a nuisance; and he hoped it would be removed one way or another. He would advocate the manner sanctioned by Judge Shaw of removing a nuisance. (Applause.)

The Chairman said if this was anything but a meeting of farmers, there would be fifty present charged full to bursting with speeches. Here were men who had suffered damages for half a century, and they would not be heard from. He would introduce a gentleman and a lawyer, from another State, who, he said, had probably tried more cases of flowage than any other man in New England. He introduced Judge French, of New Hampshire.

Judge French said he was not present to take any part in this local question, but he stated some valuable facts from his experience. He said he believed, and he had said so many times

before, that the amount of meadow land overflowed by the dams of manufacturing companies would raise wood enough ten times over to carry those mills by steam. He advised the proprietors of these meadow lands to ask the Legislature to give them a law, if they had none adequate, under which this dam may be lowered, or, if necessary, entirely removed, and a compensation made to the proprietors of the dam. He had no doubt that the Massachusetts General Court would give such a law, when the circumstances were known. Massachusetts had, in 1855, passed the best drainage law in the world; by which a man was given power to drain through any adjacent lands. He believed this was, in spirit, fully up to such an act as was wanted. In England, where a large territory had been overflowed, the evil had been removed by an act of Parliament, by which the proprietors had been compensated in a degree sufficient to support a steam power equal to the water power taken from them, and the streams were allowed to go free as God had intended they should.

Mr. Abel Gleason, of Wayland, made some remarks, mostly corroborative of the other speakers. He spoke of the inconvenience and damage from the waters sent down from the Cochituate reservoirs above, during the haying season.

Col. Heard said he knew that the whole fall of the river from Wayland to Billerica, twenty-two miles, was only two feet; but he believed, in common with several other speakers, that the water in the river at this point was several feet higher than it was at the dam in Billerica.

Deacon Heard, from Wayland, made some remarks upon the effects of the dam.

Judge French, being requested, explained that, by the law that made water run down hill, the surface of the water must be somewhat descending; and that it was very natural that the water should be piled up higher twenty miles back than at the dam.

The resolutions were then passed without any opposition.

Mr. Samuel H. Rhoades moved that the officers of this meeting, and such persons as the meeting might add, be appointed an Executive Committee to strengthen, perfect and continue this organization, and to raise such funds as may be necessary to secure its objects. The committee was raised as follows:

Simon Brown, of Concord, President; Col. David Heard, of Wayland, Elijah Wood, Jr., of Concord, John Eaton, of Sudbury, Jonas Smith, of Lincoln, Jonathan Hill, of Billerica, Nathan O. Reed, of Bedford, Thomas Page, of Carlisle, Charles Fisk, of Framingham, Vice Presidents; R. F. Fuller, of Wayland, Dr. Joseph Reynolds, of Concord, Secretaries, and Samuel H. Rhoades, of Concord, Treasurer. To whom were added Nathan Barker, of Weston, and Thomas J. Damon, of Wayland.

After some further remarks, in which no new facts were elicited, the meeting dissolved.

It was estimated by several of the speakers that the amount of property damaged—much of it rendered valueless—was as much as a million dollars.—*Boston Journal.*

THE COMPARATIVE DISTANCE OF THE NEAREST FIXED STAR.—A correspondent of one of the London papers says—As the comet is parting company with us, I think the following statement will afford the public whose minds are not familiar with astronomical distances, a pretty good idea thereof. If the earth's distance from the sun, 95 millions of miles, is represented by a space of 1 inch; Jupiter's, 490 millions of miles, by 5 inches; Saturn's, 706 millions of miles, by 9 inches; Uranus's, 1800 millions of miles, by 81 inches; and Neptune's, 2900 million of miles by 29 inches; the diameter of the longest ellipse of the orbit of Donati's comet, whose period is said to be 2495 years, and distant 35,100 millions of miles, will be represented by a space of 368 inches. Then the distance of the nearest fixed star, which is at least 35 billions of miles distant, will be represented by a space of 348,000 inches, or 5 7-9th miles; which is 1000 times that of the comet when farthest off, or 12,689 times the distance of the planet Neptune from the sun, the most distant yet discovered belonging to the solar system, and which occupies 164½ years in its orbit.

For the New England Farmer.

GRADUAL IMPROVEMENT OF LAND.

MR. EDITOR:—In a recent number of the *Farmer* there is an article upon thorough draining, in which the writer says that the thorough draining of our old farms in New England is simply an impossibility. I do not write because I think I have done more than hundreds of others who are too modest to tell what they have done, but for the encouragement of young men of small means and poor prospects, to stay on the old farm. I think it is the duty of all of us who have remained with our parents, and have obtained sufficient property to support us in our old age, to give our experience to the public.

I will give you some of mine, which you may lay before your readers, if you think proper. I was the youngest of seven boys; the others all went off as soon as they were large enough. I felt it to be a duty which I owed to my parents to stay upon the farm, which was poor and had but little income. I made up my mind to make it better, if labor, patience and perseverance would accomplish it. There was a swamp upon the farm containing about seven acres, covered with bushes and brambles, except about one acre, which was too wet to bear them. My first labor was to dig a ditch through the centre, and then I began to cut bushes and plow a small piece at a time as fast as I could attend to it, and lay it into beds about two rods wide, to take off the surface water. I followed this process until it was all plowed. I found it necessary to plow as often as once in four or five years, to keep out the swamp grasses. I also found it very difficult to keep the beds in their right form and the drains clear. I knew nothing about underdraining, but thought I would try the experiment of using up the small stones that plowed out of the other fields, and found them to improve the land so much, I made use of all my small stones, and then commenced draining with slabs, which I expect will fail in a few years.

I did not know that drain tile was manufactered so near me until I saw the advertisement in your paper. I purchased a few of them this

fall, and am so well pleased with them that I think if I should live another year, I shall make use of more of them; for I think them to be much cheaper and better than stone or slabs. I now have this piece about one-fourth underdrained, and if those who succeed me for fifty years will do as much as I have done, I think it will be thoroughly drained and in a high state of cultivation. I hope no persons will think it impossible to improve their lands till they have made more than one experiment.

I think it quite possible for most of the land in New England to be improved, if every one who owns it will labor with his own hands, and spend all of his surplus money in improvements, rather than to buy more, till he has got it all under a high state of cultivation.

THOMAS HASKELL.

Gloucester, Nov. 25, 1858.

For the New England Farmer.

ROOTS FOR STOCK—CROPS—ADULTERATED MILK.

I have read with a great deal of interest the discussion in your paper relative to the value of turnips for feeding to cattle and hogs. I have raised rutabaga and English turnips, and fed them to cows, and my opinion is, if a man keeps cows to make butter from, that turnips are poor provender, except to give perhaps two messes per week for a change. If he sells the milk, and his customers do not know the difference between good milk and thin, he might, instead of adding water to thin the milk, feed with turnips. Last year I wintered ten swine. I sold one-half of my turnips and bought corn. I fed part with the corn, and they fatted well; those that were fed on cooked turnips lived, and this fall, after having been fed on corn, are no larger than the others were last spring.

I have found beets the best root for cattle and swine, but those I think should be given in moderate quantities. Corn meal suits me better, with beets enough to give a relish, and with this feed the cattle come out in the spring in a thriving condition.

On a lot of land, 50 by 100 feet, (ten feet square being deducted for a hog pen,) I planted a new kind of beans to me, and between the hills, eight feet asunder, squash seeds. The yield was 250 squashes which average six pounds each; 1,500 pounds. I sold ten dollars worth of green beans, and this same kind of squashes I sold in April this year for three cents per pound, the purchaser saving the seed for me. At this time, Dec. 11, there is but one specked squash in the lot.

Is there an instrument to detect the adulterationof milk in this country? S. C.

Cape Elizabeth, Dec. 11, 1858.

REMARKS.—J. S. F. Huddleston, 96 Washington Street, Boston, will furnish you with an article for detecting adulterated milk.

☞ The *Ohio Valley Farmer*, published at Cincinnati, B. F. SANDFORD, Editor and Proprietor, is one of the neatest and best conducted agricultural papers THAT WE SEE.

"NOTHING TO DO."

What a swelling chorus of that constant cry comes on every gale, reaches our ear at every turn, whether on the public highway or in private conversation. Such a young man has nothing to do. Poor soul, we pity him. In this great, bustling, active world, he stands for a cypher; has no aims, no ambition, no desires. He has nothing to do. The town has been hastily looked over, no work presents itself, and so one able-bodied man sinks into the slough of idleness, convinced that the world is all money.—How many such pictures we have, and yet how needless that we have any. There is work enough for the whole creation. While one young man is spending his days in idleness, the merchant is looking for a clerk, the lawyer for somebody to assist him in his writing, and if nothing else turns up, there is at least an opportunity everywhere to saw wood. There is no necessity for an idle man on the face of the earth. Industry is one of heaven's best blessings. It endows a man with his manhood, and calls into action his tact, reason and judgment. We say to young men, never be idle. If nothing better turns up, saw wood. Anything is better than spending your days in idleness. A youth so wasted begets habits that a life will not cure. Crime, the twin sister of idleness, will next be on hand and claim you for her own. The sparkling bowl will present its allurements, and then down, down you go into degradation, and one mind is lost to the world, one star in the great human constellation is gone.

Habits of industry in early life follow a man to the grave, and whatever one's occupation may be now, such habits are a mine of wealth when one is engaged in business on his own account. Success, says Gov. Banks, is a duty, and however exacting or sweeping the remark may seem at first glance, an examination proves its truthfulness in every particular. Success is the result of industry, attention to business and steady habits, all of which are duties society imposes upon man, and the result of such causes is a duty equal with each of them. Let us have no more talk about young men who have nothing to do. If nothing comes, make or find something. How many bright names in the pages of our country's history left home for their journey through the world with their raiment tied in a handkerchief and their capital comprised in a few dollars. Yet there was determination, perseverance and energy there, which were worth more than the wardrobe of clothing or mines of wealth, and those names now fill honored places, and live and will live in beating hearts to the end of time. With such examples before us why should young men be idle. What has been done, can be done again, and any young man can do it, if he will. At all events, go to work, be a man among men; you are then on the road to wealth, distinction and honor, and how far you get depends entirely on how hard you work. Depend upon it, nothing ever came of idleness, nor never will. An idle man is a cypher in the world, and one of the most unhappy, miserable beings in existence.—*Hunterdon Republican.*

Common salt adds to the weight of grain. Bones tend to fill the ear.

TABLE OF MEASURES OF LAND.

1st.	10	16.5	20	30	33	40	50	60	70	80	90	100	110	120	130	140	150
10	.3673 .0023	.6061 .0038	.7346 .0046	1.101 .0069	1.212 .0076	1.469 .0092	1.836 .0115	2.204 .0138	2.571 .0161	2.938 .0184	3.306 .0207	3.673 .0230	4.040 .0253	4.408 .0276	4.775 .0299	5.142 .0321	5.509 .0344
	16.5	1.000 .0063	1.212 .0076	1.818 .0114	2.000 .0125	2.369 .0152	3.030 .0189	3.636 .0227	4.242 .0265	4.848 .0303	5.455 .0341	6.060 .0378	6.666 .0416	7.272 .0454	7.878 .0492	8.484 .0530	9.090 .0568
		20	1.469 .0092	2.203 .0138	2.424 .0152	2.938 .0184	3.673 .0230	4.407 .0275	5.142 .0321	5.879 .0367	6.611 .0413	7.346 .0459	8.080 .0505	8.815 .0551	9.550 .0597	10.28 .0643	11.02 .0689
2d.	150		30	3.306 .0207	3.636 .0227	4.047 .0276	5.510 .0344	6.612 .0413	7.713 .0482	8.815 .0551	9.911 .0619	11.02 .0689	12.12 .0758	13.22 .0826	14.33 .0895	15.43 0964	16.53 .1031
150	82.64 .5165	160		33	4.000 .0250	4.848 .0303	6.061 .0379	7.273 .0455	8.485 .0530	9.697 .0606	10.91 .0682	12.12 .0758	13.33 .0833	14.55 .0909	15.76 .0985	16.97 .1061	18.18 .1136
160	88.15 .5509	94.03 .5876	170		40	5.877 .0367	7.346 .0459	8.815 .0551	10.28 .0643	11.75 .0734	13.22 .0826	14.69 .0918	16.16 .1010	17.63 .1102	19.10 .1194	20.57 .1286	22.04 .1377
170	93.66 .5854	99.91 .6244	106.15 .6634	180		50	9.182 .0574	11.02 .0689	12.85 .0803	14.69 .0918	16.53 .1033	18.37 .1148	20.20 .1263	22.04 .1377	23.88 .1492	25.77 .1606	27.55 .1722
180	99.17 .6198	105.78 .6611	112.39 .7025	119.01 .7438	190		60	13.22 .0826	15.45 .0964	17.63 .1102	19.83 .1240	22.04 .1377	24.34 .1515	26.45 .1653	28.65 .1791	30.85 .1928	33.06 .2066
190	104.68 .6542	111.66 .6979	118.64 .7415	125.61 .7851	132.59 .8287	200		70	18.00 .1125	20.57 .1286	23.14 .1446	25.71 .1607	28.28 .1768	30.93 .1928	33.43 .2089	36.00 .2250	38.57 .2410
200	110.19 .6887	117.54 .7346	124.88 .7805	132.23 .8264	139.57 .8724	146.92 .9182	210		80	23.51 .1469	26.45 .1653	29.38 .1837	32.32 .2020	35.26 .2204	38.20 .2388	41.14 .2571	44.08 .2755
210	115.70 .7231	123.41 .7713	131.12 .8195	138.84 .8678	146.55 .9159	154.26 .9641	161.98 1.012	220		90	29.75 .1860	33.06 .2066	36.36 .2273	39.67 .2479	42 98 .2685	46.28 .2893	49.59 .3099
220	121.21 .7575	129.29 .8081	137.37 .8586	145.45 .9091	153.53 .9595	161.61 1.010	169.69 1.060	177.77 1.111	230		100	36.73 .2296	40.40 .2525	44.08 .2755	47.75 .2984	51.42 .3214	55.10 .3444
230	126.72 .7920	135.17 .8448	143.61 .8976	152.06 .9503	160.51 1.003	168.96 1.055	177.41 1.109	185.85 1.162	194.30 1.214	240		110	44.44 .2777	48.93 .3058	52.53 .3283	56.57 .3535	60.61 .3785
240	132.22 .8255	141.04 .8806	149.86 .9366	158.67 .9917	167.49 1.047	176.30 1.102	185.12 1.157	193.93 1.212	202.75 1.267	211.56 1.322	250		120	52.89 .3306	57.30 .3581	61.71 .3857	66.12 .4132
250	137.64 .8609	146.92 .9182	156.10 .9756	165.29 1.033	174.47 1.090	183.65 1.148	192.83 1.205	202.01 1.263	211.20 1.320	220.38 1.377	229.56 1.434	260		130	62.08 .3880	66.85 .4178	71.63 .4476
260	143.25 .8953	152.80 .9545	162.35 1.015	171.90 1.074	182.92 1.143	190.99 1.194	200.54 1.253	210.09 1.313	219.64 1.373	229.20 1.432	238.74 1.492	248.29 1.551	270		140	71.99 .4499	77.14 .4821
270	148.76 .9297	158.68 .9917	168.59 1.054	178.51 1.116	188.42 1.178	198.34 1.240	208.26 1.302	218.17 1.364	228.09 1.426	238.01 1.488	247.93 1.549	257.84 1.611	267.76 1.673	280		150	82.64 .5165
280	154.27 .9641	164.55 1.028	174.84 1.093	185.12 1.157	195.40 1.221	205.69 1.286	215.97 1.350	226.26 1.414	236.55 1.478	246.83 1.543	257.12 1.607	267.40 1.671	277.68 1.736	287.97 1.800	290		
290	159.78 .9985	170.43 1.065	181.08 1.132	191.73 1.198	202.3- 1.265	213.03 1.331	223.69 1.398	234.34 1.465	244.99 1.531	255.65 1.598	266.30 1.664	276.95 1.731	287.60 1.797	298.25 1.864	308.91 1.931	300	
300	165.29 1.033	176.31 1.102	187.32 1.171	198.34 1.240	209.36 1.308	220.39 1.377	231.40 1.446	242.42 1.515	253.44 1.584	264.46 1.653	275.48 1.722	286.50 1.791	297.52 1.859	308.54 1.928	319.56 1.997	330.58 2.066	310
310	170.80 1.067	182 18 1.139	193.56 1.210	204.95 1.281	216.34 1.352	227 73 1.423	239.12 1.494	250.50 1.566	261.89 1.637	273.28 1.708	284.66 1.779	296.05 1.850	307.44 1.921	318.82 1.993	330.21 2.064	341.60 2.135	352.98 2.206

For the New England Farmer.

TABLE OF MEASURES OF LAND.

The rapid advances now being made in the science of agriculture, are very much aided by the spirit of experiment, and by the rivalry induced by competition for the premiums offered at our yearly shows. The results of different experiments cannot be compared without a knowledge of the area of the land on which each crop was grown, and as it is not always convenient to plant just an acre, or half or quarter of an acre, it becomes desirable to have at hand such a table as is given above, for reference. It will enable a person to use such a piece of land as he may happen to have, fit for the purpose, of any width or length given in the table, with the means to readily ascertain the area in square rods or square acres, in whole numbers and decimals.

The table is used in about the same manner as an ordinary multiplication table, and though it occupies but about half the space usually given to those tables, yet it contains as much information as though made up in the square form. The multiplication of any number in the diagonal rows, into another number less than itself, is a mere repetition of work that has been done before, and therefore this table is made up so that the square of a number in the diagonal rows, is the first result given in the table opposite or below that number. The darker figures represent the measurements in feet as taken on the ground. The area given in lighter figures is expressed in square rods by the upper number, and in square acres by the lower number.

There are two tables given above, having no connection with each other, except that the darker figures in the lower are in continuation of those in the upper at corresponding intervals. In the first table, the *width* of the piece of land, expressed in feet, must be looked for in the diagonal row of darker figures, the *length* in the horizontal row of darker figures at the top. In the second table the *width* must be looked for in the diagonal row of darker figures, and the *length*

in the vertical column of darker figures at the left. The area will be found below the one and opposite the other.

Having ascertained the area of the piece of ground, and the quantity of the crop grown, the quantity per acre may be found as follows: Suppose the piece to measure 80 feet in width by 140 feet in length, the crop to be barley, and the quantity grown 288 quarts,—annex as many cyphers to the number of quarts as there are decimal numbers in the area as given, and divide by the area. The result will be the number of quarts per acre; divide by 32 and the result will be bushels. In this case the quantity being expressed by 288, annexing four cyphers we have 2,880,000; dividing by 2571, we have 1120 quarts per acre; divide by 32 and the result is 35 bushels per acre. As by example:

Area of a piece 80 × 140 = .2571, as taken from the table.
Quantity 288 quarts. Annex four cyphers, and divide by

```
.2571 )2880000( 1120 quarts.
      2571
      ----
       3090
       2571
       ----
        5190
        5142
        ----
         480
```

Divide that result by 32

```
32 )1120 ( 35. bushels.
    96
    ---
     160
     160
     ---
```

The process would be the same if the quantity of the crop were expressed in bushels, pounds or tuns. If the quantity per square rod is sought, the same figures must be used, except that the quantity must be divided by the area in rods as expressed by the upper number in the table, instead of the area in acres, as expressed by the lower number.

The quantity of the experimental crop should be measured in the smallest denomination that is practicable, to insure accuracy in the result per acre. If by dry measure, the crop may be measured in quarts, if by weight, in pounds.

The calculations required in making up this table have been performed by our assistant, Mr. Wm. H. Foss, and to facilitate the work, he constructed a small table, which can be used to reduce any number of square feet, small or large, to a corresponding value in rods or acres, with but little labor.

The table will be given in a future number of the *Farmer*, and cannot fail to be of value to any one who is in the habit of making such reductions.

J. Herbert Shedd.

Boston, Dec., 1858.

The Horticulturist.—The number before us for *December* is an attractive one. Editor, contributors and publisher, have served up a good dish in good taste. The Editor's "*Chat, Country Life, Men in Cold and Tropical Climates*," we found exceedingly interesting, perhaps because we have given considerable thought and investigation to the *influences of climate upon character*. The article upon "*Manure for Fruit Trees—Where to Feed Fruit Trees*," by our citizen, Wm. Bacon, of Richmond, is of that practical and valuable character which always give his articles interest. The one that follows, by E. Norton, Farmington, Conn., upon the subject of "*Pears on the Quince Stock*," gives a pretty accurate history of a good many experiences that did not take place in the good old State of Connecticut. While the fact that a great many have been abundantly successful in the culture of the pear on quince stocks, it cannot be controverted that a still larger number have failed to meet with that success which their expense and care would seem to justify. The article will unquestionably turn attention to the subject, and lead to a more careful investigation of its merits.

The whole number is a valuable one.

EXTRACTS AND REPLIES.

MILK BEFORE THE CALF.

Mr. J. S. Marston, of North Hampton, N. H., has a heifer that, after giving a fair quantity of milk for five and a half months, has calved for the first time, the calf being fat and rugged. Is not this a rare circumstance? S. D. B.

Portsmouth, N. H., Dec., 1858.

Remarks.—It is a rare circumstance. We have a fine three-year old heifer that we turned to pasture early in May last. She had never had a calf or given milk, to our knowledge, and we had owned her from the time she was six months old. On visiting her in one week from the time she was turned to pasture, we found her bag much distended, and milked upon the ground what we supposed to be four quarts of milk. There was no appearance in the animal, or in the milk, of her having dropt a calf. She was returned to the home pasture, and milked regularly until the middle of September, when she dropt a sprightly, but small calf, at noon, having given her usual quantity of milk, on the morning of the same day!

We have *heard* of such cases, but this is the only one that ever came under our own observation.

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COUNTY AGRICULTURAL SOCIETIES AND THE STATE BOUNTY.

If I am correctly informed, there are now four agricultural societies within the limits of what was the original Worcester County Society, and three within the limits of the original Middlesex Society, each of which receives from the treasury of the commonwealth $600 annually, being $2400 in Worcester and $1800 in Middlesex—while the county of Essex pays as much as either of these counties, and receives only $600. This is unequal and unjust—and if this plan of subdividing societies is continued, it will undermine and overturn the whole. I have been astonished that close calculating legislators have not noticed the bearing

of these discrepancies. I am friendly to the present agricultural organizations—and hope they will be sustained fairly and honorably—but no such inequalities should exist.

Dec. 15, 1858.

—

FOUR YEARS' OBSERVATION OF MOWING MACHINES IN THE OLD COUNTY OF ESSEX.

Mr. Humphrey, of Lancaster, one of the most beautiful towns of the county of Worcester, has given us his experience in the use of mowing machines, chiefly of the Ketchum stamp. He begins by saying that it took him one hour and a half to cut an acre of grass. Such has not been the experience of good laborers in the county of Essex. I can show you several, who with a medium-sized span of horses, weighing only 1000 lbs. each—have cut their acre an hour, yielding one ton and a half to the acre. This has been only their ordinary operation. If Mr. H. uses up an hour and a half in doing the same work, he is not fit to be a file leader in the use of mowing machines. I am too old and clumsy to do much myself, but I will name Levi A. Merrill, of Salem, and Horace Ware, of Marblehead,—and guarantee that either of them will do with their machines and their horses, twice as much as he has done. I have repeatedly seen them operate, and know whereof I speak. P.

Essex Co., Dec. 20, 1858.

REMARKS.—If our correspondent will look at Dea. Humphrey's letter again, he will find that when it required an hour and a half to cut an acre of grass, it was in his *first essay* with the machine. Of the last season he says—"With one Irishman to trim out the borders after the machine was done, occupying perhaps about one-fourth as much time as the machine, we have cut *sixty-eight* acres, and I think he *has not worked more hours than he has cut acres.*" Indeed, Dea. Humphrey informed us that he had frequently cut an acre, and cut it well, in *forty minutes.*

—

ELECTRICITY AND VENTILATION.

I noticed some few weeks since, in your paper, a communication signed by "Electricity," in regard to "Lightning not striking buildings that were well ventilated." Will "Electricity," or any one else, explain through the *Farmer* why it is? What difference is there on the outside of a building that is well ventilated, and one that is not, or why the building that is ventilated will not be struck by the bolt.

Richmond, Me., 1858. NON-ELECTRICITY.

—

AFRICAN BALD BARLEY.

The sample of Bald Barley I send you is said to have come from seed brought from the gulches in the Himmaleh mountains, by a gentleman in Virginia engaged in the African trade. I procured *three* heads of him, which gave me 72 kernels; these I planted 10 inches apart, and obtained 1300 heads. The grain grows rapidly, has a broad leaf, and beautiful blossom, and ripens early. I have never known the fly, rust or smut to trouble it. I think there will be no difficulty in raising 40, 50, or even 60 bushels per acre, on land that will produce 20 bushels of wheat or 40 of oats. When the wheat crop fails, the next best thing is good barley, and this, I feel confident, must make flour nearly equal to wheat.

HENRY R. HOSFORD.

Pawlet, Rutland Co., Vt., 1858.

REMARKS.—A warm barley cake, of rather coarse meal, in a June morning, with butter only an hour out of the churn, is not bad to take.

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THE STATE HOUSE.

As there are no strictly *winter* trees, or evergreens, upon Boston Common, and probably will not be, through fear of their mutilation, I think that many persons would agree with me that two Norway Spruce, planted in the enclosures front of the State House, would add much to the beauty of its grounds in the summer, and more particularly in the winter, when nothing green in inanimate nature is to be seen. D. W. L.

—

FINE HOGS.

Mr. F. Keith, of this place, slaughtered two pigs on the 3d inst. aged 13 mos. 26 days, whose weight was as follows:—male, 610 lbs. (including loose fat:) female, 494 lbs. (including loose fat.) Mrs. K. has had entire charge of the animals, and we think that they reflect great credit upon her management. F. G.

North Easton, Ms., Dec. 13, 1858.

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PEAR TREE SEEDS.

Can you give me information where the seeds of pear trees can be obtained?

Middleton, Vt., 1858. ELBRIDGE SCHOLAR.

REMARKS.—Nourse & Co., 13 Commercial Street, Boston, will supply you with pear tree seeds.

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SALT LEY.

Will some of your correspondents inform me what is the value and the best mode of using salt ley, so called by the soap manufacturers?

Harwich, 1858. N. U.

WILL SULPHURIC ACID DISSOLVE BONE?

In view of the many thousands of tons of superphosphate of lime manufactured and rendered soluble through the agency of sulphuric acid, and of the deserved honors conferred on the distinguished Giessen Professor of Chemistry, who first suggested the use of oil of vitriol for dissolving bones, it is almost startling to see the value of this acid for such purposes called in question from a chemical "laboratory," and by a teacher of the science. Prof. Gilham deserves the thanks of the public for giving his experience in this matter, for it is evident that the preparation of bone manure is not so well understood as it ought to be. A practical Scotch farmer of large experience, Mr. Tenant, thus describes his process:

"I put 25 bushels of bones into three old boilers, and next pour in two bottles of acid of about 170 pounds each, and 36 Scotch pints (18 impe-

rial gallons) of boiling water into each boiler. It boils away at a great rate for some time, and in a day or two we empty the boilers into two cart loads of light mould, and turn the mixture over. At this stage the bones are only partially dissolved, but they heat and decompose in the heap after being turned over three or four times; and in the course of seven or eight weeks the compost becomes dry and breaks down with a shovel."

Doubtless Prof. Norton saw many operations of this kind while a chemical student with Prof. Johnston.

That the grinding of bones promotes the ready action of sulphuric acid in abstracting lime from phosphoric acid, no one doubts; but the stronger affinity of sulphuric acid for lime than phosphoric acid has, is dependent in no degree on the crushing of bones. The oil of vitriol, used by Prof. Gilham, may have been a weak and a poor article. The writer has often seen the common sulphuric acid of the shops behave precisely as is described by him under similar circumstances. He appears to have omitted the use of *boiling* water, as recommended by Prof. J. F. W. Johnston, an excellent practical chemist. His recipe is, to 100 pounds of bones, add an equal weight of boiling water, and immediately thereafter, 100 pounds of strong acid. The high heat evolved from the union of the acid and hot water, so expands the fatty matter that surrounds the particles of lime in the bones, as to permit the acid to reach them and effect new chemical combinations. The elevated temperature of an acidified bone compost for days and weeks, was entirely wanting in the small laboratory experiments of Prof. G. They disprove nothing as against the chemical action of the oil of vitriol under widely different circumstances.

The error of Mr. Browne was hardly worth correcting, unless other greater misstatements of his relating to phosphates are also set right before the public.

As phosphates are important constituents in all home-made manures, and enter largely into the composition of most commercial fertilizers, I will say a few words more on the subject.—*Country Gentleman.*

DEEP TILLAGE.

A deep and thorough tillage is conducive to fruitfulness in crops; yet it is never safe to turn up too large a portion of the subsoil at once. The work of deepening the vegetable stratum of soils should be consummated gradually; a little of the substratum only being brought up at a time,—say from half to a third of an inch at each successive plowing, and so on till the soil has been stirred and improved to the depth required. Manure should be applied liberally, and lime sowed every time a fresh layer is brought to the surface. The fall is, perhaps, the most favorable season for this operation, as the soil will then experience the greatest benefit from the neutralizing effect of the calcareous matter applied, and from the pulverulent and disintegrating influence of the winter's frost.

The quantity of lime required in this process of amelioration will be best determined by a chemical examination of the subsoil in connection with that of the surface earth. If of a calcareous nature, very little lime will be required, and perhaps none; but if this principle (lime) be present in only small quantities, it should be supplied, and caustic lime is the best article that can be used, though wood-ashes, in liberal quantities, produce very salutary effects.

For the New England Farmer.

EXHAUSTED SANDY LANDS.

Much has been said on the subject of improving worn-out sandy land, or old fields. Much of that land was originally good rich soil, and the wood was cut off by the first owners, and for one hundred years or more it has been constantly under cultivation, and being warm and fine land, it has been totally exhausted by abuse. The custom has been to plow it about four inches deep, and not manure it at all, take off such a crop of corn as they can get, and sow it down with rye, and perhaps, if convenient, throw in some hay chaff, and the surface is left to blow away during the winter and spring. After the rye is harvested it is suffered to lay three or four years, and then to go through the same process, and so on. Now, any one may see, that in time all of the alkaline and vegetable substances are taken up in the stalks of corn and rye, and nothing is left to reproduce them, and, of course, nothing will grow in such exhausted land, not even weeds. The only thing than can now be done, is, either to put on muck and manure, and plow deep to restore it to its primitive state, or to suffer it to grow up into a pine forest.

The first can easily be done; for in most places where sandy lands abound, peat swamps are at hand, and in the fall, large quantities of muck could easily be carted out, and in most cases it would benefit the swamp meadows to make wider drains through them, and in such case obtain two objects at once. If this course of manuring and deep plowing is pursued, in a short time any kind of a crop could be obtained from the old fields; large crops of grass, corn, rye, potatoes, turnips, melons, &c., could be produced—also a good orchard of apples, pears, peaches and cherries. I have seen such land as the above-named perfectly restored, and at the same time, more than doubly pay the expense while undergoing this renovating process.

If it is desirable to let it go to wood, the best way is to plow the ground, and in the fall collect leaves and acorns or elm seed, and scatter them in the field and brush them over. If it is desirable, walnuts, chestnuts, beech or maple seeds could be sown. The ash, maple, or English sycamore, and lime trees, make wood fast on low grounds; the Scotch larch makes trees rapidly. I have trees of most of the above-named varieties only fifteen years old, that are from twenty to fifty feet high.

To prevent the sand and soil from blowing off, it would be advisable to cut and put on brush over the surface, and by doing this, matter will collect instead of being blown away. When I

came to Brookline I purchased a gravel hill that produced neither grass nor weeds; I put on mud all over it and plowed it in about a foot deep, and then cross-plowed it, and put on manure, about two cords to an acre, and plowed it again, and then harrowed it, and then planted it with corn and potatoes and obtained good crops, more than enough to pay all the expense and trouble, and laid it down to grass, and have had a good crop of hay every year since. It does not dry up, as it formerly did; the deep plowing prevented that trouble. Fifteen years since it was broken up, and it produces good crops now. It does not get heavy and cold as land does where muck has not been plowed in; the value of muck is much greater in gravelly or sandy land, than it is on clayey land. Sand and gravel are worth more than manure on clayey ground and meadows, especially if it is intended to cultivate cranberries.

S. A. SHURTLEFF.

Spring Grove, Dec., 1858.

For the New England Farmer.

CLIMATE AND SOIL OF ORLEANS COUNTY, VT.

MR. BROWN:—Though you have a considerable number of readers in this (Orleans county, Vt.,) I perceive there are not a large number of writers for your pages. Having resided in this county nearly twenty years, and having, during that period, been several years engaged in the geological survey of the State, I have had a better opportunity to compare the soil in this with other portions of New England, and especially, other portions of Vermont, than, perhaps, any other person. I think it is of some importance, that the readers of the *Farmer* should be made acquainted with some facts in regard to our climate and soil, of which many are probably ignorant.

This entire county lies north of forty-four degrees of latitude, but we are not, on that account, so "buried up in snow" as the citizens of Massachusetts and southern New England might suppose. It is, indeed, a very rare thing, that we are incommoded with snow or drifts, so as to impede travel or prevent business during any part of the winter. Frosts have been later, usually, in autumn than they have in Worcester county. You mention frost that injured cranberries, &c., last fall, a month earlier, near Boston, than we had in this county. Tomatoes were green in my garden, both last year and the year before, till about the first of October. This is not uncommon.

The soil of a large portion of Orleans and Caledonia counties is made by the decomposition of the calcareous mica slates which constitute the rock in place. These slates are an interstratification of clay-slate, lime-slate and hornblend. The rock is very friable, and decomposes so rapidly that there is a good deep soil now, where the ledges appeared on the surface twenty years ago. The lime, clay, silex and mica are so well mixed that they furnish in great abundance the elements required by vegetation, especially wheat, barley, grass, corn and oats. Should the soil ever deteriorate, we have immense quantities of the richest variety sphagnous muck, much of which lies above shell marl, in the beds of ancient ponds and beaver meadows. This marl, when converted to lime and mixed with the muck, makes a manure worth from fifteen to twenty per cent. more than cow-dung. I have taken pains to survey most of the muck-beds in one town, and ascertained that there were more than 730 cords for every acre of land in the town. Many other towns are equally well supplied. This will, in future ages, therefore, be a rich farming territory, when the "German Flats" and Western prairies have become impoverished. There are found few resources for supplying what is transported from those regions by the export of wheat, beef, pork, &c. There is a constant drain of the richest elements of the soil, which in time must produce the same effect now experienced in Virginia and some portions of New England. In this portion of Vermont are resources adequate to prevent any impoverishing of the soil for scores of centuries.

If you foot up the number of cattle and sheep from Vermont, taken to Brighton and Cambridge, as reported in the *Farmer*, for a year, you will find that the little State of Vermont furnishes more at those markets than all the rest of New England. This, to many, has been surprising. The question is often asked, "How is this possible?" Perhaps a few facts obtained from the president of the County Agricultural Society, a few years since, may aid in answering that question, and also show the productiveness of our soil.

"I have in grass thirty-five acres, from which I wintered last winter four large oxen, ten cows and ten two-year olds, two horses, three colts, one, two and three year olds and twelve sheep, and sold two or three tons of hay. I raised 300 bushels of oats, 125 bushels of corn and eighteen bushels of wheat." The stock was fully equal to forty cows! The amount of straw, &c., fed out, was only what is common on a farm of 100 acres.

S. R. HALL.

Brownington, Vt., 1859.

For the New England Farmer.

APPLICATION OF MANURE.

MR. EDITOR:—In the first place, should not every farmer consider what the crop is to which he can apply his manure to the best profit, whether it will be to increase his hay, or corn, or the small grains. If his farm is one better adapted to hay than grain, that is, if he has a large proportion of low land or swale hay, then it would seem best for him to apply his manure for raising grain; but if otherwise, he should have a greater proportion of upland hay, which needs the manure to keep that crop good, then it appears that here is the crop needing the most stimulant. Now let us consider what per cent. each crop gets, in the common way of applying our manures. If we spread and plow in all our manure for the first crop, say for corn, which is generally allowed to take fifty per cent. the first year, and then sow down to grain and grass the second year, which is allowed to take twenty-five per cent. of the remainder of the strength of the manure,—then we have only twenty-five per cent. left of all our manures for the succeeding grass crops, which, if there be four of those

crops, as is commonly the case, then we have only six and a quarter per cent. yearly, of all our manures, for four crops of hay.

According to these calculations, is it any wonder that we have light crops of hay, when we consider that some of our old fields have thus been managed for the last half-century or more?

If this theory be correct, it is certain that we are spending a larger portion of our manures on the grain than on the grass crops. This may be the best course to pursue, but will depend on circumstances; if the amount of grain we produce can be converted by the least expense into that which will re-produce the most from the farm, then it is best to cultivate the land for those crops; but for some farmers, no doubt hay will be the crop for them in preference to any other. T. G. HOLBROOK.

Bedford, N. H., Dec., 1858.

For the New England Farmer.

THE CORN HARVEST.

O, saw you the golden-eared corn,
As the husbandman gathered it in,
When he rose in the purpling morn
To garner his treasures of grain?

The seed which his generous hand
Had strown in the spring o'er the plain,
Had grown upon his furrowed land,
'Mid the sun and the dew and the rain;

'Till the autumn had chilled with its cold,
The insect that bathed in sun-light,
And robed in gay beauties untold,
The wind-waved forests so bright

O, heard you that mellow-toned song,
Gushing up from the husbandman's breast,
As it echoed the hill-side along,
And waked them all smiling from rest?

The West may boast her rich gold,
And the East her wines and her oil,
But the husbandman's treasures unfold
When he coaxes his corn from the soil.

New Ipswich, Dec. 21, 1858. W. D. L.

For the New England Farmer.

THE MASCOMMA VALLEY.

MR. EDITOR:—It may not be uninteresting to a portion of your readers to hear something of this beautiful valley, situated, as it is, in the mountainous region of Grafton county, N. H., and lying in the towns of Lebanon and Enfield; it is only some 14 miles in length, not very wide at any point; but it is rich and productive, and the farmers in this valley are independent; they stand upon their own acres, and can boast of as good farms, as good crops and as good stock as the farmers of any other valley in the State of New Hampshire. In the month of August last, I passed through that portion of this beautiful region lying between Lebanon Centre and George Hill in Enfield, and was filled with admiration at the rich gifts of Nature which were displayed to the traveller. Beautifully undulating lands, clad with all the varieties of majestic trees, shooting into the air, while here and there meandering crystal streams were seen gliding onward to the bosom of Lake Mascomma and the Connecticut river; I thought it the most beautiful inland country I ever beheld. At some points on either side of the valley, mountains throw up their granite peaks high into the air, descending abruptly or gracefully towards the Little Mascomma river. At other points, the land rises in long undulations, affording occasional and delightful views of the scenery—the bright river runs like a natural mirror, now meandering through the plain, and now peeping forth from the delightful shade of a thick grove—the white farm-houses with the neat-looking out-houses, the sheep basking on the distant hills, the lowing of the herd in the adjacent field, the merry song of the farmer as he gaily plied the rake or bound in sheaves the rich reward of the husbandman's toil, formed a view, which, to my eye, was truly delightful.

There are thriving and beautiful little villages in this valley that are deserving of note; the first in order, as we pass from the Connecticut eastward, is Lebanon Centre. This is a business place, traversed by the Northern Railroad, surrounded with a good farming country, pleasantly situated, tastefully laid out, and has become a place of considerable wealth.

About three and a half miles from this place, at the north-western extremity of Lake Mascomma, is situated the village of East Lebanon, a brisk little place of business, with its complement of farmers, merchants and mechanics requisite to make it what it really is, a smart New England village.

The next place worthy of note, as I passed along the western shore of this beautiful lake, (after passing the submerged bridge which crosses the lake at a point near its centre,) is the village of the Enfield Shakers; here are elegance, neatness and convenience combined. I certainly never saw a place where such perfect order and neatness prevailed. The grounds are laid out with the utmost exactness, the buildings and fences of the best materials, built in the most thorough manner, and kept in the best repair. The whole appearance manifests the watchful care of the prudent and experienced managers.

Next in order come the three little villages o. Enfield, called North-End, Centre and Fish Market. These three villages united, would make one large village. The centre village presents quite a lively appearance, containing one meeting-house, two stores, and all the various mechanical trades necessary to make a flourishing place.

The view from the south-eastern extremity of the valley is magnificent, and especially from the residence of T. J. Colby, Esq., on George Hill, an elevation of several hundred feet, and overlooking the valley on the north-west, presenting a scene of wood-land and meadow, lofty summits, gentle slopes, cottage and farm-houses, church spires, with the lofty old elms, and the more symmetrical sugar maple, groves of hemlock and small pines, spruce and fir, shading the distant and nearer landscapes, and forming a scene fit for the hand of an experienced writer. In the distance stretches the beautiful Mascomma Lake, elevated more than one thousand feet above the level of the sea, in the towns of Lebanon and Enfield, and is one of the loveliest and most romantic lakes in New England, for the beauty of its situation, its irregular shores, indented with

numerous coves, creeks and inlets, and imbedded in the midst of magnificent hills and lofty mountains. It may justly vie in beauty and grandeur with Winnipissiogee or Lake George, or with the more celebrated and far famed Scottish lakes Katrine and Lomond.

There is much more that might be written about this region, and its industrious inhabitants. Perhaps at some future time I may have something to say about my own Sugar River Valley.

W. C. A. CLINTON.

Claremont, N. H., Dec., 1858.

AMMONIA.

This substance, which performs a very important part in the economy of vegetable development and growth, is always found in rain-water, dew and snow, particularly in the vicinage of cities and densely populated districts, where ammonia is profusely generated by decomposing matters. It is a volatile substance, and unless absorbed and fixed by some article capable of attracting and retaining it, passes into the atmosphere, and is lost. That it actually abounds in rain water as it descends from the heavens, and in no inconsiderable quantity, may be demonstrated by simply distilling a few gallons, and mixing the first two or three pounds distilled with a little muriatic acid. A very distinct and beautiful crystallization of *muriate of ammonia, or sal ammonia*, will thus be formed, the crystals having a dark or brownish color.

If a small quantity of muriatic acid be added to a quantity of rain water, and the mixture evaporated to dryness over a hot fire, the ammonia will remain as a residuum, in combination with the sulphuric acid. It may be detected by adding a little pulverized lime, which will combine with the acid, and the ammonia will be set free. In this state, it is easily detected by its pungent smell.

As to fixers, a recent writer on agricultural chemistry remarks:—"For this purpose charcoal is probably one of the most efficient and valuable articles known, as it is capable, under ordinary circumstance, of absorbing ninety times its weight of ammoniacal gas, which it retains until it is freed and washed into the soil by rain. Here, partly, no doubt, by the voltaic action of the spongioles, it is conveyed into the vegetable system and circulation, and becomes the principal source of nitrogen, so indispensable to vegetable health and growth. Gypsum, another valuable article, is also a powerful fixer, and is highly valuable as an application, on all soils, especially those that are dressed with animal substances, which in the process of decomposition evolve considerable quantities of ammonia, and which, like charcoal, it serves to fix and retain for the benefit of the growing crop."

Urate is evolved or given out by putrid urine, and by stable dung in a state of fermentation. It is always a colorless product, and distinguished by a peculiarly pungent odor. When dissolved in water, it is known as "*hartshorn.*' It is volatile in a very remarkable degree, possesses the common properties of soda and potash, and combines readily, as we have already shown, with acids. Its effects upon vegetation, are very marked. For fixing and economizing this volatile and highly important product of decomposition, gypsum, or plaster of paris, as it is more commonly denominated, possesses a very high degree of value. It was formerly supposed that gypsum operated merely as a stimulant when applied to vegetables; but in his very elegant and elaborate work, Professor LIEBIG has presented a solution of its action, which experience, we have no doubt, will demonstrate to be correct.

According to his views, carbonate of ammonia, which is known to be present in rain-water, and in itself a most energetic and salutary agent in the production of vegetable phenomena, is attracted and *decomposed* by gypsum, and soluble sulphate of ammonia and carbonate of lime formed. As this salt of ammonia possesses no volatility, it is, of course, retained in the soil, and effectually economized for the use of plants. Both the above salts, however, have a decidedly beneficial influence upon the *humus* of the soil, and, by a specific action, tend to advance its preparation as a soluble food of plants.

For the New England Farmer.

MANURES—COMPOSTING AND EXPOSING.

MR. EDITOR:—I was pleased with the communication from Mr. Collamore, in the *Farmer* of December 18th. He quotes from my communication of November 27, as follows :"forty years among the corn crops." I wrote it as follows, "forty years' *labor* among corn crops."

There is a great difference in spending forty years among crops of corn, and laboring forty years among corn crops. The laborer has greatly the advantage over a mere proprietor, in noticing failures among the different crops.

Mr. C. asks some eight questions, two or more of them being double ones. These questions partake somewhat of the process of dodging responsibility. When Mr. C. says I am "mistaken," and "blind," he should produce some experimental argument to convince me that I was in error, and could not see. I had not the most distant thought about "converts," when I wrote my experience, and I venture to prophecy that in less than twenty years very many farmers will be ready to give just such "advice," and "give their manure the benefit of both sun and rain."

Mr. C. asks, "has it never occurred to him, that he could compost his manure?" I wrote about composted manure, and supposed it was so un-

derstood all through my communication; and this I fully believe can be done better out of the cellar than in. Mr. C. is informed in this, as well as my former communication, that I have "learned that the caustic qualities of powerful manures will prevent the germination of seeds." He inquires if I am in earnest in recommending this theory; if he will take away the word "ruinous," I answer I am in earnest, and have practiced it for forty years. I think my labor has not been wholly vain in the corn-field, and should I be permitted to slumber, as did Van Winkle, I fully believe that when I awake, I shall find the barn cellars occupied for a different purpose than the composting of manures.

What surprises me the most, is his first parenthesis, "And I think you, Mr. Editor, must have a large share of moral courage to publish it." Was Mr. C. serious, when he penned that? Did he think an editor had no other attribute than courage? and if he has other attributes, does he think that the reason of his publishing my article was to try his courage? If farmers acted from a sense of duty, I believe we should often record our failures, for the benefit of others. I hope we shall have both sides of this subject discussed in the *Farmer*, as the sooner we know the truth, the better. ROBERT MANSFIELD.

West Needham, Mass., Dec., 1858.

For the New England Farmer.

CUTTING STALKS OF CORN.

MR. EDITOR:—I am pleased to have my remarks on the "cutting of corn-stalks" noticed by a man so sensible as Mr. Emerson, of Hollis, appears to be. Without the honor of his personal acquaintance, I judge him to be a man of good sense, from his style of writing. In years gone by I have known many reliable men of Hollis, and among others I presume I knew the father of Mr. Emerson, when he attended market at Salem, as many of the inhabitants of that town were accustomed to, with their loads of barrels; and when these loads came together, we were accustomed to look upon it as a sign of rain.

His experiment of cutting eight rows of stalks, and leaving other eight rows similarly situated uncut, is a perfectly fair one. And if he found, as he says he did, more soft, unripe corn where the stalks were not cut than where they were cut, this would go far to show that it is best to cut them. Another reason why it is better to cut them than not, is, the stalks themselves are more valuable. But the chief reason is, that the corn ripens better; the ear being the object for which it is grown, and not the stalk. I have heard it said if the stalks were left on, the juice of it would settle into the kernel and increase the weight of it; but this is theory only; I have no confidence in the fact. ESSEX.

December 25, 1858.

GRINDING FEED.—"If a machine was invented to *grind* hay," says the *London Farmers' Magazine*, "the ground article would approximate in value to *unground* oats in producing fat and muscle." Chopping hay and stalks is the process that comes nearest to grinding, and relieves the animal of just so much labor as it takes to do it. Twenty-five pounds of dry hay a day is a good deal of work for the muscles of one pair of jaws, if they have the whole burden of its reduction to small bits and powder; this labor affects the whole system, like other labor, retarding the animal's growth and rendering more food necessary to supply the waste of its tissues. The same reasoning applies to grinding other food for stock.—*Country Gentleman.*

For the New England Farmer.

AGRICULTURAL PROGRESS—MAMMOTH FARM COMPANY.

MESSRS. EDITORS:—In the *N. E. Farmer* of the 18th Dec. is a communication with the above caption by Wilson Flagg. Notwithstanding Mr. Flagg's able and well-written article, he does not convince me that there is danger to the small, independent farmer, growing from the formation of the "Mammoth Farm Company," in Western New York. How that operating with steam implements on the prairies at the West, can prove "destructive to the prosperity of individual farmers" at the East, or any where else, I have not the sagacity to see. The productions of the West are generally the very articles which New England does not produce in sufficient quantities for her own consumption. From the West and South very few articles are transported to New England which are produced in it as surplus. The more grain, pork, cotton, sugar, molasses, rice, sweet potatoes and other articles of warm climates, and the cheaper they come to us, the better, if the raisers are remunerated. And for me, I am under the least apprehension that this "Mammoth Company" can monopolize the farming business, in the least degree to the injury of the small, independent farming interest in the Eastern and Northern States, however it may operate upon them on the prairies at the West.

The plow is the only "mammoth implement" to which steam could be advantageously applied; that being the case, other farm operations must be conducted in the usual way, as on small farms, with horses, oxen and hand laborers. I hope, for the benefit of the farmers at the West, and all the consumers at the East, West, North and South, that the steam plow will prove successful in capsizing the surface of the indurated prairies, and fully realize the expectation and confirm the hopes of the "Mammoth Farm Company," in plowing those stubborn prairies which require so much animal power to perform. The fear of injury to the small, independent farmer in the Eastern and Northern States, that creates such apprehensions in the mind of Mr. Flagg, I think must subside, when he takes into consideration the difficulty and expense of purchasing the small farms, leveling the ground, clearing away the rocks, straightening the brooks, draining the swamps, and above all, of procuring manure to enrich this chaos of gravel, clay, sand, mud and other mineral matter, to make it productive. For one, I would as soon invest my capital in Vermont Central Railroad bonds, or go into a South Sea speculation, as invest money as a stockholder in a "mammoth farm" in any part of the Union. SILAS BROWN.

North Wilmington, Dec., 1858.

For the New England Farmer.

MATERIALS FOR ROOFING.

I notice in the *Farmer* of Oct. 16th a well-written article on this subject; also, another in the number dated Dec. 11th, in which are set forth some facts, and in my opinion some errors; and as but few, comparatively, are well acquainted with the article of roofing slate, the public mind might be led astray, from some remarks that have been made in previous articles on this subject, and more especially those in the October number, from the pen of Rusticus. I deem it my duty to at least give my opinion, and the reasons for the same, and let the people judge for themselves.

That slate is the best material for roofing, there is no doubt in my mind, reasons for which were given by my brother Rusticus.

In regard to the strength of slates, Rusticus sets forth that a slate to have strength must necessarily be composed of such properties as will fade, which theory must be carried out, if we admit that the Glen Lake and the Eagle slate are the best. I admit, as Rusticus says, that there are slate that are soft, brittle, and do not fade, which cannot be split thin on account of their tenderness. I mean more particularly those he mentions, or the Western Vermont. There are also hard slate, so brittle that they cannot be split thin. A slate need not necessarily be hard or soft to split well. I am more or less acquainted with the slate from more than twenty quarries in the vicinity of Hydeville and Fairhaven, and this fact I have observed among these slate, that both the hard and soft have their good and bad qualities for splitting. Slate, to split well, must not be soft, like clay, or chalk, nor hard and brittle, like cast iron, or glass, but be of pure, fine quality, solid and elastic. Good splitting slate, both hard and soft, will bend apart in splitting some of the largest sizes, some six inches or more.

As to the question whether the color has any thing to do with the strength of slate, I am willing to take Rusticus on his own ground. He says the Welsh slates are a standard, and the Glen Lake are equal to them except in color. Why must the Vermont slates fade in order to give them strength, any more than the standard Welsh slates? Slates fade in consequence of the metallic properties of which they are composed. Those composed of iron will fade and rust, while those composed of lead or copper will remain for ages unchanged.

A good splitting slate that fades is better than a tender slate that will not fade, but a slate that is both strong and never fades is better than either. Such as these are made at a quarry within two miles of Hydeville and Fairhaven depots, and within one mile of the quarries of the Eagle and Forest Slate Co., owned by William L. Farnam & Son. This quarry yields a variety of colors, the top layers are beautiful, light variegated colors, while those below are dark variegated or clouded purple, and still farther down are a fine purple, capable of being split sixty or seventy to the foot.

As another instance of the splitting properties of this stone, blocks from six to ten feet long by two or more in width, can easily be split the thickness of one-fourth of an inch or less. These are softer than those of Glen Lake, the Eagle or the Forest Slate Co.'s, equal in strength and superior in fineness of texture, evenness of surface and duration of color, and in no respect inferior to any Welsh slate. ANOTHER SUBSCRIBER.

December, 1858.

MILK STAND AND BUTTER-WORKER.

We are permitted again to copy from FLINT'S admirable work on "Milch Cows and Dairy Farming," and place before the dairyman or woman a representation of an excellent mode of setting away milk, and also a convenient form of a butter worker.

Milk should never be set on the bottom of a cellar, if the object is to raise the cream. The cream will rise in time, but rarely or never so quickly as on shelves from five to eight feet from the bottom around which a free circulation of pure air can be had from the latticed windows. It is, perhaps, safe to say that as great an amount of better cream will rise from the same milk in twelve hours on suitable shelves, six feet from the bottom, as would be obtained directly on the bottom of the same cellar in twenty-four hours.

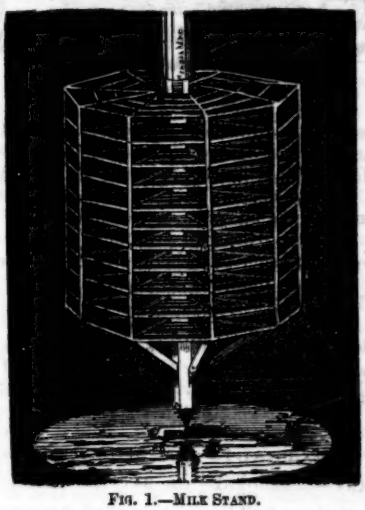

FIG. 1.—MILK STAND.

One of the most convenient forms for shelves in a dairy-room designed for butter-making is represented in Fig. 1, made of light and seasoned wood, in an octagonal form, and capable of holding one hundred and seventy-six pans of the ordinary form and size. It is so simple and easily constructed, and so economizes space, that it may readily be adapted to other and smaller rooms for a similar purpose. If the dairy-house is near a spring of pure and running water, a small stream can be led in by one channel and taken out by another, and thus keep a constant circulation under the milk-stand, which may be so constructed as to turn easily on the central post, so as often to save many footsteps.

The pans designed for milk are generally made of tin. That is found, after long experience, to

be, on the whole, the best and most economical, and subject to fewer objections than most other materials. Glazed earthen ware is often used, the chief objection to it being its liability to break, and its weight. It is easily kept clean, however, and is next in value to tin, if not, indeed, equal to it. A tin skimmer is commonly used, somewhat in the form of the bowl of a spoon, and pierced with holes, to remove the cream. In some sections of the country, a large white clam-shell is very commonly used instead of a skimmer made for the purpose, the chief objection to it being that the cream is not quite so carefully separated from the milk.

FIG. 2.—BUTTER-WORKER.

The butter-worker with a marble top, is an important addition to the implements of the dairy. It effects the complete removal of the buttermilk, without the necessity of bringing the hands in contact with it.

APPLE GROVE FAMILY SCHOOL, Sandwich, Mass.—We feel quite confident that parents who place their children under the charge of Mrs. E. GOULD WING, the Principal of this School, will find every advantage for them in the way of acquiring an education for them that they desire.

EXTRACTS AND REPLIES.

BARNS—CLAPBOARDS OR BATTENS—TIE-UPS.

I am about building a barn, and am puzzled to know whether to clapboard it, to have my boards *matched* or *battened* with strips some three or four inches wide. Those who have buildings covered with matched boards complain that the *tongues* shrink from the *grooves*. I am inclined to try the *battens*, but am assured that, being applied to the sappy edges of the boards, they prevent them from drying when wet, and thus cause them to rot. What advice have you, or any of your correspondents, for me?

Furthermore, shall I locate my cattle tie-up upon the north side of my barn, from whence the manure will fall into the back part of the cellar, or shall I place it in the south side, where the animals it would seem might be more comfortable, but the manure more exposed to the weather?

Upon examining several barns in a part of the country where greater care is manifested in the selection of good models than in this vicinity, I find that a great diversity of opinion prevails upon these points.

I notice, however, that when any particular plan is adopted, it having cost the projector no little *head work*, he is very reluctant to admit that the child of his adoption is not pretty near perfection, at least as good as any of his neighbors. A SUBSCRIBER.

Danvers, Dec. 28, 1858.

REMARKS.—We should use the battens, but not upon "wany-edged" boards. We have never known the edges of boards to decay under the batten to make such a course objectionable.

Tie the cattle on the *north side*, by all means; otherwise you so obstruct the barn cellar as to make it almost valueless for any purpose but that of keeping the manure.

There is no settled opinion yet, *as to what the best arrangement for a barn is.*

INJURED HORSES.

Will you or any of your subscribers inform me whether a horse receiving a cut by a dull instrument, like the step of a wagon, one of the cords being cut off, will recover so as to be fit for future use; and also, whether a horse, with sprung forward ankles, will recover and if any of you know of any thing to assist nature in the recovery of each.

Taunton, 1859.

REMARKS.—We do not think a horse so injured will recover so as to be of any service. A horse with "sprung ankles" or knees, is able to perform a good deal of slow work.

SULPHUR FOR CATTLE.

I was gratified to see an article in your paper of Nov. 13th, on the use of *sulphur for stock*, taken from the *Ohio Valley Farmer*, which I consider worth to a common farmer what he pays for the paper, (if properly used.) There are many things rendered valueless by misapplication. I use quite a quantity of sulphur every season among my stock. My way of using sulphur among my cattle is as follows: I melt lard with a little sulphur, double a piece of candle wicking a few times, draw it through the melted lard and tie it round my calves' necks, and let them wear it. I give my cattle sulphur once a day for three days, then omit three days, so continue to do until I give it nine days, then omit two weeks. One teaspoonful a dose for a calf, a large spoonful for a full-grown animal. I give it at night on their provender, and keep my stock housed, that it may better operate on the surface of the animal. I find by giving it a little more freely for a few weeks, before turning to pasture, it supersedes the necessity of bleeding, and makes the cattle more healthy during the season.

Deerfield, Mass., 1858. APOLLOS CLARY.

REMARKS.—The reference which our correspondent makes to the old practice of *bleeding cattle in the spring*, and of *cutting off their tails*,

at any time when fancy suggests it, affords us the opportunity of asking again, what this *blood-letting* and *mutilation* are for? It is said the end of the animals' tail is *soft*, and therefore, unhealthy. Is it so? We are inclined to think it will be found diseased when it it is as *hard* as a rake tail and as unbending as a hoe handle. It was made soft and flexible, or it would not have answered the purpose for which it was intended. It is just as sensible to cut off a teat, or an ear, as the tail. If the animal is sick, administer proper remedies, but do not deprive it of those parts of its body which its Creator intended should be used as one of its means of protection, as well as give it those fair proportions which make it pleasant to the eye of man.

So of the barbarous custom of *bleeding cattle in the spring*. What is it for? Cattle are not usually sick in the spring, that have been well fed and tended during the winter, and if they have not received this treatment, and are thin and lousy and weak, do not deprive them of what little vitality they have by *bleeding them!* but rather administer in liberal doses, good red-top hay, a few sliced roots daily sprinkled with a quart of sweet corn meal, and let the patient partake freely of good cold water, and bathe frequently in the warm beams of the sun, and out of the wind. Then apply gentle friction frequently with a soft card and brush, and you will soon become sensible of a rapid improvement. That gallon of blood *which you did not take away*, has been stimulated to action by your generous diet, so that the hair has become sleek, the skin soft and eyes bright, and every part of the animal would say to you if it had a tongue—"I thank you, sir; I thank you, sir; I had no blood to spare, I merely wanted something to eat."

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BUCKWHEAT AND CLOVER ON SANDY LAND.

I have a piece of plain land that I wish to break up next spring, as it is infested with that plague, the ox eye daisy. I should like to sow buckwheat. Will it do to sow clover with the buckwheat, harvest the buckwheat, and plow the clover in another year, and repeat? Will it exterminate the daisy? R. BUTLER.

Spencer, Mass., 1858.

REMARKS.—The operation you describe will probably keep the daisy down, so long as you continue to cultivate—but would not exterminate the seed. If you get a good crop of clover, it will be much better to cut it and let it wilt before plowing it under. The principal value which the clover contains, is in its sugar and starch. When it is plowed under in its green state, it goes into rapid fermentation and decomposition, and the sugar and starch are thrown off in the form of gas. But if wilted, the process will be slow, and all that is valuable in it secured to the soil.

FATAL DISEASE AMONG CATTLE.

As I have a disease amongst my stock, I would like some information, what it is, and the cure for it. I have lost four cows since they came up to hay; the ones that have died all ran together in the fall feed, in which there was some swamp. Those that did not run in the same mowing, are now well. In the first place, their bags are hot and their milk dries up; they are dumpish, run at the eyes and nose a corrupted matter of a yellowish color; their eyes turn white when they are first taken, but before they die they are bloodshotten. They live three or four days, and sometimes a week, from the time they are taken, and then die. The same disease is amongst other stock in the neighborhood; there has been fifteen head of cattle that have died near by me within a short time of this disease.

Windham, Dec., 1858. BENJAMIN S. BEMIS.

REMARKS.—We cannot tell from the symptoms described, what the disease is that is taking off the cattle at such a rate. Perhaps some of our readers may recognize it, and be able to recommend a remedy.

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SOUTH DOWN SHEEP.

Mr. E. K. DANFORTH, of South Newberry, Vt., wants to purchase some pure South Down Sheep.

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FLOORS OF HORSE STABLES.

Will you, Mr. Editor, or some of your correspondents, inform me whether the floor of a horse stable should be level or incline? If incline, how much? W. D. L.

For the New England Farmer.

THE WORLD OF THOUGHT.

The intelligence of man, which forms his crowning excellence, is an emanation from the Divine Mind, and thus of characteristic elements and always active. Ever during his conscious existence are its powers employed in thought; thought succeeding thought without perceivable connection, yet each suggested by its relation to the one preceding. The trains of ideas or thought depend much on the culture and development of mind, with its habits and peculiarities, and circumstances in life. The thoughts of the ignorant man are grovelling; tending to animalism. Nature, in all her glorious forms, he admires only as ministering to sensual wants. Thought is limited to the narrow circuit which forms his sphere in life. But the educated mind, on thought's airy wings, finds throughout Nature's limitless domain, beauty and happiness.

No two minds are alike constituted, nor therefore of the same thoughts. But this difference, with the degrees of mental culture, the influence of various occupations and circumstances in life, forms a world-wide diversity. A case of murder presented to a lawyer, physician, and clergyman, would suggest to each a train of thought in harmony with his profession. And any subject, presented to a number of persons, will be viewed by each from his own stand-point, appearing in different form and arrayed in different colors. To this

fact may be traced the cause of many contentions.

The mind being ever occupied, considers an infinite number of subjects, flowing incessantly through its avenues of communication with the external world. It may detain, and concentrate its powers on one, or allow all to float on, finding its pleasures in novelty. Looking inward it may gaze on memory's stores, or on wings of imagination soar out in the boundless future. Youth lives in the future, old age in the past, and all in both.

Turning our eyes toward that untried world, we are dazzled by visions of beauty and happiness. The gentle breeze wafts to us pleasing odors. The star of hope sheds kindly beams on our pathway, and we fondly dream it winds only through flowery meads, shady groves, and by murmuring rivulets. Perchance memory comes, gently takes us by the hand and leads us along down the past. We review the scenes of childhood, visit our early home, the favorite haunts of youth, and gaze once more on the happy faces of those we loved. Our first great grief comes fresh before us, as she leads us to the silent room, and we gaze on a loved one struggling in death. We again see the cold form shrouded for the grave—take the last fond look—and follow with breaking heart to its last resting-place.

Though the mind meditates on the past and present; speculates on the future; considers the evil and the good; things earthly and things heavenly; is absorbed in its own passions or emotions; or dwells much in the world without; yet man has the power of subjecting his thoughts to his will. Let him, then, *beware!* For, "as a man *thinketh, so is he.*"

Wayland, Dec. 20. L. H. SHERMAN.

NET WEIGHT OF HOGS.

At this season the following table for determining the net by the gross weight of hogs, may be useful to dealers in pork. It is based upon the Kentucky rule, that is, for 200 lbs. gross nett deduct 26 lbs.; for the second 100 lbs. subtract 12½ lbs., and for the third 100 lbs. deduct 6¼ lbs. All over 300 lbs. is calculated as net:

100 gross will net	75	200	162
105	79	205	167
110	83	210	174
115	88	215	178
120	92	220	181
125	96	225	184
130	101	230	190
135	105	235	195
140	110	240	200
145	114	245	209
150	118	250	214
155	122	255	218
160	127	260	223
165	131	265	228
170	136	270	232
175	140	277	237
180	143	280	242
185	149	285	246
190	153	290	251
195	158	295	256

☞ Dr. E. Holmes, Editor of the *Maine Farmer*, has been elected President of the Maine Pomological and Horticultural Society, and D. A. Fairbanks, Augusta, Secretary; and Russell Eaton, Publisher of the *Farmer*, Augusta, Treasurer and Librarian.

TO MAKE GOOD WINTER BUTTER.

At the annual meeting of the Jefferson County Agricultural Society, at Watertown, on the 14th of January, a tub of superior winter-made butter was exhibited by Mr. Daniel Parker, of that town, for which a premium was awarded by the discretionary committee. "The butter," says the *Northern Journal*, "was quite as yellow as much of the fall-made sent to market, and the flavor so fine that we obtained of Mr. Parker the mode of manufacture. He states that as soon as he has finished milking, the pails of milk are set into kettles of boiling water, where they are allowed to remain thirty minutes, then the milk is strained into pans and allowed to stand until the cream is ready to be taken off, which will depend upon the temperature of the room in which it is set. Before churning, the cream must be kept in a warm room at least twelve hours; then it will require churning less than an hour. He washes his butter immediately after taking it out of the churn, and at the same time salts it. His cows had been fed on clover hay, without grain or roots, for six weeks previous to the time of making this sample. Butter made in this way is perfectly sweet, of a good color, and will bring from two to four cents per pound more in market, than that manufactured in the ordinary way. It is worthy the attention of farmers."

COMPARATIVE VALUE OF ROOTS.

MR. EDITOR:—Will you, or some of your readers, inform me what is the comparative value of roots for cattle and hogs?

There are many farmers that practice feeding roots that have never made any accurate estimate of their value, compared with different kinds of grain, hay, &c.

In conversation with a gentleman upon this subject he said, that he had practiced feeding his horse with eight quarts of oats and eight quarts of carrots a day, and that he performed more labor and was in better condition than when fed sixteen quarts of oats a day. In this case a bushel of carrots is equal in value to a bushel of oats.

What is the value of ruta bagas, carrots, beets, parsnips and potatoes, compared with rye, oats, peas, barley, buckwheat, corn and hay, when fed to cattle and hogs?

I want to investigate this subject, and take this course, hoping to receive information from those who have made accurate experiments; and any such information will be gratefully received by a SUBSCRIBER.

Fort Fairfield, June 23, 1858.

NOTE.—We have several times given statements of chemists and others, of their experiments to ascertain the comparative value of the different roots and other substances used for fodder—good hay being the standard.

In No. 21, Vol. 24, we published the following editorial upon this subject, which may give some light to our friend by way of an answer to his queries:

It is a great object to the farmers of Maine to raise a supply of the best kinds of fodder for their stock during the winter. Hay, we all know,

is the great dependence—the staple material for this purpose, but there are many other crops which can be raised to advantage among us, and which are very valuable for furnishing food to stock, and thereby saving hay.

In order to ascertain the real value of these crops for the purpose above named, it will be necessary to compare the nutritive properties of the several articles with good hay as the standard.

Experiments, and close and careful comparison of the results of many trials, have given the following as the comparative difference between the articles mentioned and good hay. We have published these results before, but we now put them in tabular form, so as to give the reader an easier mode of comparing them.

100 pounds of hay are equal to
275 pounds of green Indian corn,
442 pounds of rye straw,
164 pounds of oat straw,
153 pounds of pea straw,
201 pounds of raw potatoes,
175 pounds of boiled potatoes,
339 pounds of mangel wurtzel,
504 pounds of turnips,
54 pounds of rye,
46 pounds of wheat,
59 pounds of oats,
45 pounds of peas or beans,
64 pounds of buckwheat,
57 pounds of Indian corn,
68 pounds of acorns,
105 pounds of wheat bran,
109 pounds of rye bran,
167 pounds of wheat, pea, and oat chaff,
179 pounds of rye and barley.

From this "bird's-eye view," it will be easy to calculate the *fodder* value of any of the above articles which you may raise. For instance, if you have 504 lbs. of turnips, they will give as much nutrition to your cattle as 100 lbs. of good hay, or in other words, it will take 5 lbs. of turnips to be equal to 1 lb. of hay.

An ox, it is said, requires 2 per cent. of hay per day if he does not work, and 2½ per cent. if he works. Suppose, therefore, you have an ox that weighs 1500 lbs., he will require 30 lbs. of hay per day if he does not work. But you wish to feed him in part with turnips. If you give him 15 lbs. of hay, how many pounds of turnips must you give him to make up the supply? Ans. 75 lbs., which, at 60 lbs. to the bushel, will be 5 pecks.

Again, according to the table, a little more than half a pound of Indian corn is equal to a pound of hay. If, therefore, you give the same ox but 15 lbs. of hay, how much Indian corn must he have to supply the 15 lbs.? Ans. A little over 8½ lbs. Allowing corn to weigh 50 lbs. per bushel, it will take 5 quarts and a third.

Allowing the estimates in the table to be correct, they will be a convenient guide to farmers in feeding cattle, &c, on other articles, in order to save their hay.

A milch cow is said to require 3 per cent. of her weight per day. A sheep, full grown, 3½ per cent.—*Maine Farmer.*

A LUXURY FOR ANIMALS.—It is related of Rev. Sidney Smith, that when on his farm, each cow and calf, and horse and pig, were in turn visited, and fed and patted, and all seemed to welcome him; he cared for the comforts of every living being around him. He used to say,—"I am all for cheap luxuries, even for animals; now all animals have a passion for scratching their back bones; they break down your gates and palings to effect this. Look! there is my universal scratching, a sharp-edged pole, resting on a high and low post, adapted to every height, from a horse to a lamb. Even the Edinburgh Reviewer can take his turn; you have no idea how popular it is. I have not had a gate broken since I put it up. I have it in all my fields."

LEGISLATION—LAND DRAINAGE COMPANIES.

BY HENRY F. FRENCH.

[There are few subjects in which a large number of farmers can be more interested, in all parts of New England, at least, than in that of *Drainage*. There are comparatively few farms but need it in one place or another, and there are few other things that have led to so much misunderstanding and litigation, and that have destroyed the pleasant social relations in neighborhoods, as flowages and drains.

We have been permitted to read some chapters of a work on the subject designated in the title of this article, in advance of its publication, and do not believe we can better meet the wants of the general reader, than by transferring some portions of the chapter on "Legislation" in relation to drainage and flowages, and of "Land Draining Companies," to our columns.

We understand the work is to be published in the course of two or three months, by the enterprising Agricultural book publishers, A. O. MOORE & Co., of New York.]

Nothing more clearly shows the universal interest and confidence of the people of Great Britain in the operation of land drainage, than the Acts of Parliament in relation to the subject. The conservatism of England, in the view of an American, is striking. She never takes a step till she is sure she is right. Justly proud of her position among the nations, she deems change an unsafe experiment, and what has been, much safer than what might be. Vested rights are sacred in England, and especially rights in lands, which are emphatically real estate there.

Such are the sentiments of the people, and such the sentiments of their representatives and exponents, the Lords and Commons. Yet England has been so impressed with the importance of improving the condition of the people, of increasing the wealth of the nation, of enriching both tenant and landlord by draining the land, that the history of her legislation in aid of such operations, affords a lesson of progress even to fast young America. Powers have been granted, by which encumbered estates may be charged with the expenses of drainage, so that remainder-men and reversioners, without their consent, shall be compelled to contribute to present improvements, so that careless or obstinate adjacent proprietors shall be compelled to keep open their ditches, for outfalls to their neighbors' drains, so that mill-dams and other obstructions to the natural flow of the water, may be removed for the benefit of agriculture, and finally, the Government has itself furnished funds, by way

of loans, of millions of pounds sterling, in aid of improvements of this character.

In America, where private individual right is usually compelled to yield to the good of the whole, and where selfishness and obstinacy do not long stand in the pathway of progress, obstructing manifest improvement in the condition of the people, we are yet far behind England, in legal facilities for promoting the improvement of land-culture. This is because the attention of the public has not been particularly called to the subject.

Manufacturing corporations are created by special acts of legislation. In many States, rights to flow and ruin by inundation most valuable lands along the course of rivers, and by the banks of ponds and lakes, to aid the water-power of mills, are granted to companies, and the land-owner is compelled to part with his meadows for such compensation as a committee or jury shall assess.

In almost every town in New England, there are hundreds and often thousands of acres of lands, that might be most productive to the farmer, overflowed half the year with water, to drive some old saw-mill or grist-mill, or cotton-mill, which has not made a dividend or paid expenses for a quarter of a century. The whole water-power, which perhaps ruins for cultivation a thousand acres of fertile land, and divides and breaks up farms by creating little creeks and swamps throughout all the neighboring valleys, is not worth, and would not be assessed by impartial men, at one thousand dollars. Yet, though there is power to take the farmer's land for the benefit of manufacturers, there is no power to take down the company's dam for the benefit of agriculture. An old saw-mill which can only run a few days in a spring freshet, often swamps a half-township of land, because somebody's great grandfather had a prescriptive right to flow, when lands were of no value, and saw-mills were a public blessing.

There are numerous cases within our own knowledge, where the very land overflowed and ruined by some incorporated company, would, if allowed to produce its natural growth of timber and wood, furnish ten times the fuel necessary to supply steam-engines to propel the machinery carried by the water-power.

Not satisfied with obstructing the streams in their course, the larger companies are of late making use of the interior lakes, fifty or a hundred miles inland, as reservoirs, to keep back water for the use of the mills in the summer droughts. There are thousands of acres of land drowned and rendered worse than useless, for the water is kept up till midsummer, and drawn off when a dog-day climate is just ready to convert the rich and slimy sediment of the pond, into pestilential vapors. These waters, too, controlled by the mill-owners, are thus let down in floods in midsummer, to overflow the meadows and corn-fields of the farmer on the intervales and bottom lands below.

Now while we would never advocate any attack upon the rights of mill-owners, or ask them to sacrifice their interests to those of agriculture, it surely is proper to call attention to the injury which the productive capacity of the soil is suffering, by the flooding of our best tracts in sections of country where land is most valuable. Could not mill-owners, in many instances, adopt steam instead of water-power, and becoming land-draining companies instead of land-drowning companies, at least let Nature have free course with her gently flowing rivers, and allow the promise to be fulfilled, that the earth should be no more cursed with a flood?

We would ask for the land-owner, simply equality of rights with the mill-owner. If a legislature may grant the right to flow lands against the will of the owner, to promote manufactures, the same legislature may surely grant the right, upon proper occasions, to remove dams and other obstructions to our streams, to promote agriculture. The rights of mill-owners are no more sacred than those of land-owners, and the interests of manufactures are, surely, no more important than those of agriculture.

We would not advocate much interference with private rights. In some of the States no special privileges have been conferred upon water-power companies. They have been left to procure their rights of flowage, by private contract with the land-owners, and in such States, probably the legislatures would be as slow to interfere with rights of flowage, as with other rights. Yet there are cases where for the preservation of the health of the community and for general convenience, governments have every where exercised the power of interfering with private property, and limiting the control of the owners. To preserve the public health, we abate as nuisances, by process of law, slaughter-houses and other establishments offensive to health and comfort, and we provide by compulsory assessments upon land-owners, for sewerage, for sidewalks and the like, in our cities.

Everywhere for the public good, we take private property for highways, upon just compensation, and the property of corporations is thus taken like that of individuals.

Again, we compel adjacent owners to fence their lands and maintain their proportion of division fences of the legal height, and we elect fence-viewers with power to adjust equitably the expenses of such fences. We assess bachelors

and maidens, in most States, for the construction of school-houses and the education of the children of others, and in various ways compel each member of society to contribute to the common welfare.

"THE SALT, IF YOU PLEASE."

Everybody has a partiality for dinner, and one of the most frequent expressions at a dinner-table is the one which forms our caption; and in order that our readers may know something of the substance they are using, we will tell them a few facts about salt. Salt is a chemical compound of twenty-three parts by weight of a beautifully silver white but soft metal, called sodium, discovered by Sir H. Davy, in 1807, and thirty-five parts of a pungent, yellowish green gas, called chlorine, discovered by Scheele, in 1774—these two combined form this, the most widely diffused and useful of any compound in the world. It is found in the sea, and in the rocks, from which our principal supply comes. The most wonderful deposits are in Poland and Hungary, where it is quarried like a rock, one of the Polish mines having been worked since 1251. These Polish salt mines have heard the groan of many a poor captive, and have seen the last agonies of many a brave man, for until lately, they were worked entirely by the State prisoners of Austria, Russia or Poland, whichever happened to be in power at the time; and once the offender, or fancied hindrance to some other person's advancement, was let down into this subterranean prison, he never saw the light of day again. So salt has its history as well as science. Other large deposits are found in Cheshire, England, where the water is forced down by pipes into the salt, and is again pumped up as brine, which is evaporated and the salt obtained. To such an extent has this been carried that one town in the "salt country," as it is called, has scarcely an upright nouse in it, all the foundations having sunk with the ground, to fill up the cavity left by the extricated salt.

In Virginia there are beds of salt, and the Salmon Mountains, in Oregon, are capable of affording large quantities of the same material. The brine springs of Salina and Syracuse are well known, and from about forty gallons of their brine, one bushel of salt is obtained. There are also extensive salt springs in Ohio. The brine is pumped up from wells made in the rock, and into which it flows and runs into boilers. These boilers are large iron kettles set in brickwork, and when fires are lighted under them, the brine is quickly evaporated. The moment the brine begins to boil, it becomes turbid, from the compounds of lime that it contains, and which are soluble in cold, but not in hot water; these first sediments are taken out with ladles called "bitturn ladles," and the salt being next deposited from the brine, is carried away to drain and dry. The remaining liquid contains a great quantity of magnesia in various forms, and gives it the name of "bittern," from the taste peculiar to magnesia in every form.

"But how did this salt come into the rock?" is the natural query, and the wonder seems greater when we recollect that salt-beds are found in nearly every one of the strata composing the earth's crust. This fact proves another, that as the majority of these salt-beds have come from lakes left in the hollows of the rocks by the recedence of the sea, the sea has through all the geologic ages been as salt as it is to-day. Let us take the Great Salt Lake as an illustration, it being the largest salt lake in the world, but by no means the only one, as such inland masses of saline water are found over the whole earth, but as ours is the greatest in extent, it will form the best example. It is situated at an elevation of 4,200 feet above the sea, on the Rocky Mountains, and has an area of 2,000 square miles; yet, high as it is, "once upon a time," as the story books of our juvenality used to say, it was part of the sea, which retired, by the upheaval of the rocks, and that great basin took its salt water up with it. Should this in time evaporate, and its salt water become covered with mud and sand, and the .and again be depressed, then, at some distant future age, the people would be wondering how the salt got there, little thinking that the Mormons had ever built a city on its shores when it was a great salt lake. There are, also, however, salt rocks taking their place in regular geologic series with other rocks, interspersed between red sandstone, magnesian and carboniferous strata; these we can only account for, as we do for other stratified rocks, viz., that they were deposited from their solution in water, or carried mechanically to the spot where now found by that ever mobile liquid. We fear we should be accused of an attempt to put our readers in pickle, so we will stay our pen, hoping they will remember these bits of information when next they say, "The salt, if you please."—*Scientific American.*

THE NEW YORK BANK TELLERS.

There is nothing in bank history more remarkable than the unfrequent and comparatively trifling loss by forged signatures. It would seem almost miraculous to a spectator standing by the counter of one of our active city banks, to witness the rapidity with which the Teller pays checks (often at the rate of three in a minute,) whilst at the same time he is subjected to perpetual interruptions from within and without. At the end of the day, he has paid from four to six hundred checks, amounting to more than a million of dollars—a large proportion to strangers. In the fifty-three city banks, during the same six hours, there have been paid from fifteen to twenty thousand checks, covering thirty millions of dollars, and not one forged signature! The records of the Clearing House show that the amount of payments for a year through that channel has reached the prodigious aggregate of seven thousand millions of dollars. Another large amount, not represented in the exchanges, is paid over the counters, making a grand total of probably eight thousand millions in three hundred days, and yet it is seldom that the community is startled by an announcement that a forged check of any importance has slipped through the hands of the Paying Teller in our city banks!

It is doubtless to the terrors of the law, partly, that banks are indebted for this fortunate immunity. But these are operations mostly at a sin-

gle instance of time—when the check is presented. That passed, the forger is comparatively safe. He may set rewards and telegraphs at defiance. It is, therefore, the skill and discernment of the Teller, first and last, that keeps the forger at a respectful distance—skill not only in detecting false signatures, but in reading men at sight by the most obscure of all characters, written upon the manner, and covered by practiced dissemblance, more quickly than you would Roman capitals. The value to the bank of this detective faculty can hardly be exaggerated.

The Paying Tellers of New York disburse daily near twenty-five millions, and in the course of a year eight or ten thousand millions of dollars; and the aggregate of all losses incurred through them by mistake or by abuse of trust, is not, at the highest, as much perhaps, as the one-ten-thousandth part of one per cent.! This is strong testimony in favor of their general fidelity as a class, in view of the extensive powers with which they are entrusted, and especially, in view of the power of certification, which in the manner of its use up to the present day, has been without any other protection than their own sense of propriety and honor.—*Gibbon's "Banks of New York."*

For the New England Farmer.

ANIMAL MANURES, &c.

Mr. Editor:—Being one of your less scientific, but inquiring readers, I am disposed to inquire further of your correspondent, who gives us "Corn Again," in your weekly of Nov. 27.

I have fallen into the error, which I apprehend is quite a common one, of believing that animal manures do, in New England especially, form an important basis of all farm improvement.

The two first gardeners were placed, no doubt, in far different circumstances, than any of your "inquiring" farmers find themselves, as regards tertility of soil, and other agricultural requisites.

Even in those days, best suited to your correspondent's theory, animals were by no means overlooked; being created prior to man, and consequently, considered necessary to complete the harmony of a perfect world.

As to the Chinese and Japanese, I have no desire to pattern especially after their mode of agriculture, but think your correspondent will find them placing a higher value on animal manures than he would have us infer.

Spade husbandry, at the present ratio of labor, for farmers who have notes to meet, and families to maintain and educate, as a general method, would be more expensive than profitable.

I have found a yoke of oxen and an Eagle plow, or two yokes and the Universal sod and subsoil, equal in amount and thoroughness of labor to as many Irishmen with spades, as would have eaten the oxen at one day's meals, and considerable corn bread beside.

Instead of animal manures being to the soil as the condiments to our food, I have been educated to believe them the food of the plant. Indeed, every corn or oat or grass crop I raise so proclaims them, and I believe the plant as good an analyst of the condition of soil necessary to its growth, as many of your more scientific, but less inquiring readers. I agree with your correspondent, upon the evanescent properties of guano.

I presume the gentleman's dinner or supper becomes evanescent in the course of a few hours; at least, should think it might, unless he should consume a little beef, or the Yankee dish of pork and beans therewith.

The general practice of farmers in this section is to raise corn, small grains and grass, in rotation; and land well manured after corn, and the crop of grain at seeding, generally produces two good crops of grass, and then is manured and put in corn, &c.

To grow good corn, without animal manures, would be like making water run up hill; one could grow the stalk, but the rounded and well-filled ear of golden corn, would come up missing like Paddy's flea.

It is considered, by many farmers, the surest way to put money in pocket, to consume on the farm all the hay and coarse fodder, and much of the grain, making the marketable products of the farm consist for the most part, of beef, pork and dairy products.

This system, with care in providing cellars in which to secure the manures, and muck, and loam to absorb the liquids, with now and then a load of muck in the hog-yard, "for the scavenger of the family," gives more corn, more rye or grass, and more money, with which to keep the wheels greased, and pay for the *N. E. Farmer*, than the opposite.

With most of us, inquiring farmers, a full belly makes a strong back, even if the food be somewhat of such matters as corned beef and pork and beans.

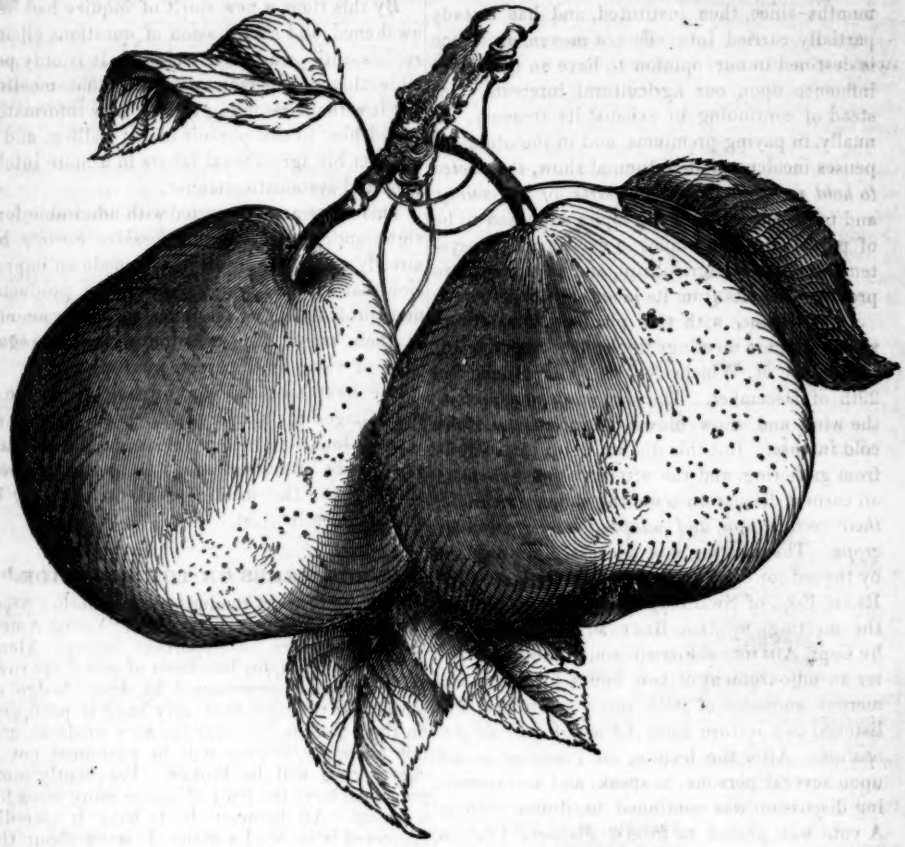
I venture to assert that many of the most potent charms of farm life are found in good crops, well filled barns, plenty of cattle, horses, sheep and swine, sleek and contented, to devour the contents of the same.

I may add, that many farmers, possessors of such charms, and taking pleasures from these fertile sources—advocates of thorough culture, liberal application of manures, a generous but thrifty policy everywhere upon the farm, pay for and highly appreciate the *Farmer*, and are known, by force of introduction, as your less scientific but inquiring readers. A Farmer.

Vermont, Jan. 1, 1859.

Gigantic Harvest Home.—The Irish papers contain an account of the gigantic harvest home on the estate of Mr. Pollock, in the county of Galway. About 1,400 persons (only one-half of his servants,) were liberally entertained in the Home Farm Stead at Lismay. The roof covers nearly two acres of land, and the building was lighted with gas. The extent of this gentleman's operations may be judged by the fact that he has 1,800 acres in green crops, and 4,000 in grain, with about 4,000 head of cattle.

House Committee on Agriculture.—Messrs. William G. Whiteley, of Delaware, Lawrence W. Hall, of Ohio, Wm. H. Kelsey, of New York, John Huyler, of New Jersey, Richard Mott, of Ohio, James B. Foley, of Indiana, James L. Gillis, of Pennsylvania, R. P. Tripp, of Georgia, W. H. Keim, of Pennsylvania.



THE GRAY DOYENNE PEAR.

This fine pear is known in different localities by several different names, such as the *Gray Butter Pear*, the *Doyenne Boussouck*, *Gray Deans* and *St. Michael Dore.*

Downing says, "The Gray Doyenne strongly resembles the White Doyenne in flavor and general appearance, except that its skin is covered all over with a fine, lively cinnamon russet. It is a beautiful pear, usually keeps a little longer, and is considered by many rather the finer of the two, but in the valley of the Hudson, where both are remarkably fine, we do not perceive its superiority. It richly deserves more general attention. Shoots upright, grayish brown.

Fruit of medium size, obovate, but usually a little rounder than the White Doyenne. Skin wholly covered with smooth cinnamon russet, (rarely a little ruddy next the sun.) Stalk half to three-fourths of an inch long, curved, set in a narrow, rather deep and abrupt cavity. Caylx small, closed, and placed in a smooth, shallow basin. Flesh white, fine-grained, very buttery, melting, rich, and delicious. Middle of October, and will keep many weeks."

Brickmaking by Elephants. — The Ceylon *Observer* contains an account of some brickmaking works recently visited by Sir Henry Ward. The works, which turn out about 20,000 bricks a day, are ouly six miles from Colombo. The clay for brickmaking is prepared by elephants. The wild and tame work together, and both attempt to shirk their work by endeavoring to put their feet in old footprints, instead of in the soft, tenacious, untrodden mud.

A NEW MOVEMENT.

OLD CHESHIRE COUNTY AWAKE.

The *Cheshire County Agricultural Society of New Hampshire*, at its last annual meeting, some months since, then instituted, and has already partially carried into effect, a movement which is destined in our opinion to have an important influence upon our agricultural interests. Instead of continuing to exhaust its treasury, annually, in paying premiums, and in the other expenses incident to an autumnal show, they *voted to hold meetings in various parts of the county*, and to discuss some of the topics supposed to be of paramount importance in exciting better systems in practical agriculture, and to bring more profitable results from its labor.

In accordance with this plan, the first of the series of these meetings took place at the beautiful town of Winchester, on Wednesday, the 29th of December. The day was a severe one, the wind and snow blowing furiously, and the cold intense. But this did not deter the zealous from gathering, and the afternoon was spent in an earnest discussion upon the subject of *Soils, their reclamation, and adaptation to particular crops.* The meeting was addressed for an hour by the editor of the *Farmer*, then by BENJAMIN READ, Esq., of Swanzey, the presiding officer of the meeting, by Dea. BUFFUM, of Winchester, by Capt. ADAMS, of Fitzwilliam, and others. After an adjournment of two hours for tea, a numerous audience of both sexes assembled and listened to a lecture upon *Agriculture as an Avocation.* After the lecture, the President called upon several persons to speak, and an interesting discussion was continued until nine o'clock. A vote was passed to form a *Farmers' Club* in Winchester, and the initiatory steps taken to establish it.

The second meeting of the series was holden at Troy on Friday, Jan. 7th, and was organized by choosing BENJAMIN REED, Esq., of Swanzey, President, and Dr. CAVERLY, of Troy, Secretary. The weather was again unpropitious; it being rainy through the day, the snow soft and sloppy, and a dense fog covering the face of the earth in the evening. But notwithstanding this, a goodly number was present, and the exercises commenced at a little past two, P. M., and continued until five. The subject, *Manures*, was discussed with energy, and with an eminently practical bearing, by Messrs. BROWN and REYNOLDS, of Concord, Mass., PARKER, KENDALL and ADAMS, of Fitzwilliam, and WRIGHT and BOYCE, of Troy. In the early part of the evening, a spirited discussion took place upon the *Culture of Indian Corn—its value as a crop, and the best modes of cultivating it.* A variety of topics were incidentally introduced in this discussion. At eight o'clock, a practical, sound in doctrine, and finely written lecture upon *Farm Management*, was delivered by Dr. JOSEPH REYNOLDS, of Concord, Mass.

By this time, a new spirit of inquiry had been awakened, and a succession of questions elicited replies until nearly ten o'clock. It is only possible that any person attending that meeting, left it without resolving to seek new information to aid him in the pursuit of his calling, and to conduct his agricultural labors in a more intelligent and systematic manner.

This movement, projected with admirable foresight and wisdom by the *Cheshire Society*, has already excited an interest and made an impression that will pervade the county in producing more profitable practices, in increasing the amount of their crops, and in swelling the aggregate sums of value on the assessor's books.

The next meeting is to be holden at one of the villages in Marlborough, near Keene, on Friday, Jan. 21st, at ten o'clock, A. M. The subjects to be discussed are, *The Grasses, Grains* and *Stock.* The meeting will undoubtedly be one of much interest.

"FRUIT TREES ON THE ROADSIDE."

Writing of trees reminds me of another peculiarity of this country, from which "Young America" might learn an important lesson. Along the public roads, for hundreds of miles, are rows of fruit trees, unprotected by ditch, hedge or fence; yet the ripe fruit may hang in profusion on their boughs, or cover the very roadside, and not an apple or pear will be purloined, not a cherry twig will be broken. Frequently some poor man buys the fruit of one or more trees for a season. All he must do to have it sacredly respected is to bind a withe of straw about the trunk, in token of ownership.

It is not enough that we have plenty to eat and drink, fine clothing, comfortable houses, and productive farms. Every man owes it to himself, his family, his country, to cultivate all those qualities of mind and heart which delight in beautiful objects, which are susceptible of moral and religious growth. And as *home* is the cradle of all virtues, and as external adornments, especially those natural ones which lie within the reach of every citizen of our favored land, such as trees, shrubs, flowers, tasteful lawns, arbors, and trellises, are among the strongest means of making home attractive, it should be the desire and the labor of all good men to diffuse throughout the community a sentiment of regard for rural works and pastimes. To do this, lies within the power of no one man or woman; all should make it their object, and he who labors most will have the satisfaction of knowing that he has faithfully done his part towards accomplishing the great work of the age.

Man must work, he must labor. But he may work willingly, or as a machine; he may work cheerfully, or as a slave. Labor, undirected by knowledge of the great principles which govern

the development of the soil, is always slavish. Is there the grand design of agricultural schools, to lead the tiller of the soil to take an intelligent interest in all the wonderful processes of nature which continually pass before his eyes, in order that, with his powers of observation thus quickened, all the better faculties of his mind aroused and exercised, he may make every hour of labor attractive, and add new grace, refinement and happiness to his home?

The nation must look for true wisdom and strength to the education which controls and shapes the *home* policy of the family circle. Let us then define patriotism, *true patriotism*, to consist in *love of home*. There can be no love of home; and on the contrary, show me a man who loves to adorn his home with those peaceful and refined charms which God designed it should possess, and I can show you a good citizen, an honest patriot, and a true man."—*Gov. Wright's Letter from Germany to Ohio Farmer.*

THE PHILOSOPHY OF RAIN.

To understand the philosophy of this beautiful and often sublime phenomenon, so often witnessed since the creation of the world, and essential to the very existence of plants and animals, a few facts derived from observation and a long train of experiments must be remembered:

1. Were the atmosphere everywhere, at all times, at a uniform temperature, we should never have rain, or hail, or snow. The water absorbed by it in evaporation from the sea and the earth's surface would descend in an imperceptible vapor, or cease to be absorbed by the air when it was once fully saturated.

2. The absorbing power of the atmosphere, and consequently its capability to retain humidity is proportionably greater in warm than in cold air.

3. The air near the surface of the earth is warmer than it is in the region of the clouds. The higher we ascend from the earth, the colder do we find the atmosphere. Hence the perpetual snow on very high mountains in the hotest climate. Now when from continued evaporation, the air is highly saturated with vapor, though it be invisible and the sky cloudless, if its temperature is suddenly reduced by cold currents descending from above, or rushing from a higher to a lower latitude, its capacity to retain moisture is diminished, clouds are formed, and the result is rain. Air condenses as it cools, and like a sponge filled with water and compressed, pours out the water which its diminished capacity cannot hold. How singular yet how simple, the philosophy of rain! What but Omniscence could have devised such an admirable arrangement for watering the earth?—*Scientific Journal.*

STEAM SLEIGH.—A Polish exile in Siberia has invented a means of applying steam power to the traction of sleighs, by which journeys can be made with rapidity over the frozen snows and the steppes covered with ice, which abound in the Russian dominions. Such an invention, it seems to us, might be valuable in this country for winter traveling over our broad prairies and ice-bound lakes.—*Scientific American.*

THERE'S WORK ENOUGH TO DO.

The black-bird early leaves its rest
To meet the smiling morn,
And gather fragments for its nest
From upland, wood and lawn.
The busy bee that wings its way
'Mid sweets of varied hue,
And every flower would seem to say—
"There's work enough to do."

The cowslip and the spreading vine,
The daisy in the grass,
The snowdrop and the eglantine,
Preach sermons as we pass;
The ant, within its cavern deep,
Would bid us labor too,
And writes upon his tiny heap—
"There's work enough to do."

The planets, at their Maker's will,
Move onward in their cars,
For Nature's wheel is never still—
Progressive as the stars!
The leaves that flutter in the air,
And summer's breezes woo,
One solemn truth to man declare—
"There's work enough to do."

Who then can sleep when all around
Is active, fresh and free!
Shall man—creation's lord—be found
Less busy than the bee?
Our courts and alleys are the field,
If men would search them through,
That best the sweets of labor yield,
And "work enough to do."

To have a heart for those who weep,
The sottish drunkard win;
To rescue all the children, deep
In ignorance and sin;
To help the poor, the hungry feed,
To give him coat and shoe;
To see that all can write and read—
"Is work enough to do."

The time is short—the world is wide,
And much has to be done;
This wond'rous earth, and all its pride,
Will vanish with the sun!
The moments fly on lightning's wings,
And life's uncertain too;
We're none to waste on foolish things—
"There's work enough to do."

Christian Witness.

For the New England Farmer.

INVERTED POSTS.

Having noticed an article on this subject written by Zina Round, of Nevada, Wis., and inserted in the *N. E Farmer*, Aug. 21st, 1858, and being of the same opinion in regard to the matter, I would give a few reasons why inverted posts and stakes will last longer than those set in an upright manner, and why wood will season better set up top end down, than in any other way.

In order to come at this, we must understand a little of the nature of the growth of plants, trees, &c. The plant or tree consists of roots, which are located in the soil, leaves which are spread in the air, and a stem or trunk and limbs which connects the roots and leaves. This stem is intercepted with sap vessels or tubes which extend from the end of the roots to the surface of the leaves, thus affording a passage for the sap, a circulation of the moisture taken in by the

roots from the soil to sustain the growth of the plant, and from various causes it is drawn up towards the leaves, where it is evaporated. Now one of these causes is the action of these sap vessels or fibres of wood which serve as valves to force the sap upward similar to those in animals in the blood vessels, (as the vegetable and animal kingdom are similar.) This being the case, which is, undoubtedly, in my mind, and which can be proved by experimenting on trees in the sap-running season, it accounts for posts and stakes lasting longer set in an inverted matter, than those set in an upright manner, and also for wood seasoning better set up, top end down; for the action of the sap vessels (while set in this manner) aided by the attraction of gravitation, drains the timber of all its moisture, it becomes seasoned, and will not decay, while those set in an upright manner will retain their moisture, fermentation takes place, hence decay. R. A. DAMON.

Ripton, Vt.

THE FARM OF ELIJAH WOOD, JR.

IN CONCORD, MASS.

He who manages a farm *profitably*, setting a good example to his neighbors, and to the stranger who passes by his gates, is a public benefactor. He may make two blades of grass grow where only one grew before, but if it is done *at a loss*, he must eventually starve, and he is not a public benefactor, nor his example a good one.

He does not manage a farm *profitably* who increases the fertility of his acres, enlarges his barns, multiplies his kine, and makes his trees drop fatness, if in so doing he starves his soul, breaks down his health, and brings up his family about him in a state of servitude that is only one degree from intolerable.

Such a course is extravagant, unreasonable, and will be ruinous in the end, no matter how many shares may be accumulated in the bank, mill or railroad, how many fair acres teem with fertility, or how many scores of cattle and sheep may graze upon the hills which the owner calls his own. There is no real profit in it all.

The farm of which we are speaking has not been managed in this way,—for while the stock has increased, and the rough places become smooth, and while luxuriant grain and corn, and grass fields, have yielded to him their rich and varied crops, and rivers of milk have been flowing from his healthy and well-tended cows, his own soul has expanded and kept progress with the material things about him. The *farmers' club*, the *lyceum*, the *church*, the *school*, all the *social relations* of life, have been cherished and cultivated as well as the farm,—and this is what we call *profitable cultivation*. For what profiteth it a man if he gain a whole *farm*, and lose *himself!*

Mr. Wood manages two distinct farms; his own, which he has brought to a high state of fertility, principally from its own resources, and an adjoining farm owned by a non-resident. His crops on these, last season, were 20 acres in potatoes, 13 acres of which were planted in swamp land, in process of reclamation, 20 acres in corn, 4 in southern corn for fodder, 11 acres in oats, 11 in rye, and cut 160 tons of hay! He is wintering 90 head of cattle, principally milch cows, and sold, between the first of October and the first of April of last year, *one thousand, nine hundred and seventy-five dollars worth of milk*, and for the then ensuing six months, expected to sell something over *one thonsand dollars* worth more. He thinks the two farms capable of supplying $5,000 worth of milk annually. But he sells the milk as a matter of convenience, and not because he thinks that the *most profitable* way of disposing of it.

Within a year he has built more than 150 rods of balance and bank wall, bogged and partially reclaimed fourteen acres of swamp land, and has arranged to build not less than 400 rods more of wall, and to reclaim 20 acres more of swamp land, where young trees and bushes are now standing.

On finding that the aggregate of his cultivated land was 66 acres, exclusive of mowing land, the inquiry was a natural one, whether he could give so many acres sufficient manuring to make it profitable to have so many at once under the plow? The reply was, that no acre had been planted without its complement of *thirty* ox-loads of manure, except the swamp land, which had been planted without any. In the summer preceding the crops of which we are speaking, he had tied up about fifty head of cattle, and to their droppings he had added muck, and whatever other valuable materials he could command, in order to swell the heaps and add to their value.

Mr. Wood long ago learned that his low, moist lands were those which he must depend upon for his grass crops, and by a judicious management of them, by a thorough working of them when plowed, by liberal manuring and seeding, followed by a top-dressing of rich, well pulverized compost every other year, he can keep them sufficiently active to produce an average of two tons per acre for ten or twelve years in succession. This is one of the causes of his success in farming; for from land valued at $100 per acre, he gets an annual crop worth $30 for the two tons of hay, and a crop of rowen which is either cut and cured or fed by the stock, and worth at least $8 per acre, making an aggregate of $38 an acre. The cost of getting this hay is not more than $5 an acre; the interest on the cost of the land $6, leaving a net gain of $27 per acre, without any palpitations of heart as it regards the solvency of these acres! What investments in mills, banks, railroads, or even commerce or trade, are so safe and lucrative as these?

At one of the barns where the stock is kept, water is brought by a hydraulic ram, to the yard, and thus an otherwise heavy and constant labor is averted. Arrangements are being made to introduce water to the other barn by the same means. Just as we were leaving the premises, we noticed eight fine shoats, and about 100 fowls. Mr. W. informed us that he had made careful experiments in feeding the fowls, and had ascertained that he could feed them liberally on a variety of food, at a cost not exceeding one-third of a cent per day, and that the results were so favorable that he intends to increase the number to five hundred, the coming summer.

In managing these farms, Mr. Wood introduces the best implements he can find, whether his great grandfather ever used them or not. His grass is mostly cut with mowing machines, and raked by horse-power, while his plows, harrows, seed-sowers and weeders, are all of the latest construction, if he finds they work better and quicker than older ones. He is a man of progress. His farm-work is all twice performed; first by Head-Work, and then by Hand-Work,—so that his men are moved by a system, and are never vexed by delays and contrary directions. He makes his "brief," as well as the lawyer, and a glance at it shows him precisely where he stands, or in other words, where he stuck up his hoe! When he is appointed to lead in a discussion at the Farmers' Club, he devotes an evening to an investigation of the subject, and is thus prepared to speak upon it with profit to others, and credit to himself.

Last summer he had some dozen acres of rye to harvest, very little of which stood less than six feet high. It occurred to him that *reaping* rye was a slow and laborious process, so he introduced scythes into his fields, and before three acres had been gone over, skill had been acquired to cut it, and lay it out in rows quite as well as the reapers did, and at least five times as fast.

For the New England Farmer.

POTATOES FROM SEED.

"Reader, will you write for ——?"

This question, which I find in a leading agricultural journal, awakened a desire to make some small return for the valuable information I obtain through agricultural journals, none of which do I prize more highly than the *New England Farmer*. I have no theory to maintain, but in what I have to say, and with full leave for the free use of scissors or fire, I will give you my experience in

RAISING POTATOES FROM SEED.

Five years ago, finding on some early purple potatoes an abundance of very large balls, it occurred to me that it must be a healthy variety, and a good one to test the experiment of invigorating the tuber, and producing new varieties.

The first year I obtained about a quart of tubers from the size of a pea to that of a walnut—the second season some of them increased to a moderate size for the table—the third many of them were full size—and the last year they average as well as potatoes generally for size.

Though the seed was from an early dark purple roundish potato, the produce is nearly all of a yellow cast—many of the Carter shape—some ripened with early potatoes, some are late.

Now as to quality. I have never found one decidedly good. Some few, not many, have rotted. They are generally pretty smooth, the eye less sunken than most potatoes—most of them are hard and require thorough boiling, and then appear more like a natural than a cultivated plant. What may be the result of further culture, remains to be seen.

We are more inclined to speak of success than of a failure, and while it would have been gratifying to me, I prefer to state facts, and the result of experience and observation, believing it to be the true way to promote the cause of agriculture in its various departments.

Truly yours, S. S.

Amherst, Jan. 3, 1859.

For the New England Farmer.

BARN CELLAR VS. OUT-DOOR MANURE.

FRIEND BROWN:—I have read lately an article in the *Farmer* from the pen of Mr. Mansfield, of Needham, on the subject of manure; and as I do not believe in the doctrine therein advanced, I propose to say a few words about it.

If his doctrine is true, it must be that I live in a very benighted neighborhood, so far as manure and barn cellars are concerned, at least. There are in this neighborhood twenty-three farms adjoining each other; seven in Dracut and sixteen in Pelham, with cellars under the barns where manure is kept and composted, and I will venture the assertion that there cannot be found that number of adjoining farms in New England where better corn, in quantity and quality, is raised than we have raised since those cellars were built, taking the quality of land into the account—and more than that, we have no trouble about our corn coming up, so far as I have learned.

It is well known to every good farmer that manure may be, and often is, strong enough to kill corn and other tender plants, when the seed is put directly upon it, and the man who does not compost and reduce this cellar manure, or use it in some other way than putting it in the hill, has scarcely taken his first lesson in farming, and ought to lose his crop a few times, until he can learn better. Your correspondent says not one word about the way he uses his manure, so that we may infer that it kills, let him use it as he will. He had better take 100 pounds of clear manure, dried in the cellar, and another 100 from under the eaves of the barn, and make them separately into a liquid and give them a fair trial, before he gives up his cellar.

I am well aware that hogs do not do as well in a cellar under cattle, as they do out in good pens or on horse manure. B. F. CUTTER.

Pelham, N. H., Dec. 23, 1858.

For the New England Farmer.

INTELLECT ON THE FARM.

MR. EDITOR:—There is at the present day a very general effort among those who are considered leaders of agricultural improvement, to infuse more mind into the various operations of the farm. Your correspondent has often referred to this subject. There is no danger whatever of a man being too learned to carry on a farm; he may possibly make brains pay better in some other calling, but there is no other which will make a greater demand upon it, if he takes hold of the business in earnest, and as it is capable of receiving. My desire is to see our New England farmers put more of this material into farm business than they have done heretofore. I feel confident if they will do so, they will find an increase of profits. True, muscle and mind or brain must go together. Our people, both men and women, particularly the latter, work too hard. I do not take into the account loafers and the lazy; it makes little odds what becomes of these. They do not give themselves that leisure for intellectual improvement which they ought to have. A farm, of all the places in the wide world, offers the greatest field for mental culture, and I am happy to know that our New England farmers, their wives and daughters, as well as the sons, are beginning to appreciate their calling in this light; depend upon it, farmers, you are in the right road; it will lead you safely and happily to glorious results.

Permit me to call your attention to a delightful source of entertainment as well as instruction. How few farmers, or of those not such, know much about the habits, offices and structure of the hosts of insects found on the farm; many of them great helpers, accomplishing more in a day for the benefit of the farm, than all the hands of the farm could muster; while others are equally destructive. Do you know which are your friends and which your foes? Do you know the various transformations many of these insects pass through? Do you understand the general characters by which the different species are known, and whenever seen, easily recognized? Here is a study for you, full of interest, and easily understood. One that nine-tenths of our New England farmers can comprehend, if they will only take the little trouble required to do so. I know that in order to obtain the information, and make insect study interesting, you will need a microscope, and my object in writing this article is to tell you where you can obtain just the instrument you need, and its cost. If you will send to J. & W. Grunew, of New Haven, Ct., inclosing twelve dollars, they will send you one of the most beautiful little microscopes in this or any other country, every way complete and ready for use. With this little instrument you can devote an hour at the close of the day's work to the study of such insects, or any thing else suitable, which you may have collected through the day. My word for it, you would soon have wife and children and hired men about you, all eager to behold the wonders and the wisdom of God as manifested in the minutest of His works, and you would soon learn that there is one general law or type peculiar to each and every species. Then, too, as you pass around in the orchard, you might see some particular favorite tree, its leaves looking sickly and its limbs and trunk covered with moss or fungi. You guess something is the matter with it, but what, that's the question; you take a leaf or two, a bit or so of moss, place them under your glass, and you need not doubt longer; a great and interesting truth finds its lodgment in your brain, to be brought out on some future time for a useful purpose, and many dollars saved thereby.

What I wish is that you farmers should know the whys and wherefores of those thousands of operations which are every day going on about that glorious farm of yours, and be able to explain those operations, so far as it is in the power for human intellect to do. This privilege is yours, and a little effort on your part will accomplish the business; though you may not be a Harris or an Agassiz, still, you may be an intelligent, go-ahead, thinking farmer, and this is honor enough, and what Norfolk wishes to see you.

NORFOLK.

King Oak Hill, 1859.

CULTIVATION OF THE YELLOW LOCUST.

For the information of D. P. POWERS, of Madison, Wis., I will undertake to answer his inquiries respecting the growing of locust timber. I believe I "really know something about it," having sown the seed in three different localities, and brought them to a profitable maturity in each case. And permit me to say, that I look upon the locust as the most profitable timber for cultivation in our country; and have often, in my visits to the prairies of Wisconsin and other Western States, wondered why it was not more generally cultivated, both for timber and shelter from the wind.

The yellow is the kind used here, and probably the best for timber or fuel. The seed can be procured at any of the large seed stores of Albany, Rochester or Buffalo, and probably at Chicago. If the trees can be found of sufficient age in Illinois or Wisconsin, seed can be obtained from them at this time, as it remains on the trees all winter, and is not injured by the storms. I have seen trees bearing seed, on the prairie a few miles west of Racine. Probably plenty can be procured in that region merely for the gathering. Plant the seed about the 15th of May, or when the ground is in good condition to plant corn.

Prepare the seed for planting, by pouring on it rain water, nearly boiling hot. Let it stand in a warm place, say under the stove, or near the chimney corner, until the seeds have most of them swelled to about double their usual size; and are so soft as to be easily cut in two, by pressure between the finger and thumb nail. This requires twenty-four to forty-eight hours' soaking, and if all are not swollen, sow those that are so, and repeat the soaking, but with water not quite so warm as at first.

Prepare the ground in the most thorough manner. It should be rich, dry and mellow, and free from the seeds of weeds. I have succeeded well, on a green sward, freshly plowed, and the surface well mellowed with the rake. The ground should be in fit order for sowing onions, as the plant when it first shoots is very tender and small.

Plant shallow, not over one inch deep, and tread the ground or roll it after the seed is in. Rows about four feet apart, and seeds three or four inches apart in the row; so as to insure plants enough for one to each space of twelve to eighteen inches. Hoe them as soon as they are fairly up, which will be in fifteen to twenty days after planting. With these, as with every other young plant, careful attention is necessary, to insure the best success. If well attended to, an average growth of four feet each may be expected the first season. After the first year, but little attention is needed. Do not undertake to improve them by trimming, except to prevent crotches, which are objectionable if timber is the object.

They will withstand the winds, as well probably as any other tree. The only enemy we dread is the borer, which is sometimes troublesome, but not seriously so. The general advantages are, rapid growth, fourteen to sixteen years producing trees large enough for posts, great durability and weight, with strength and toughness, fitting them for wagon-hubs, railroad-ties, &c. No other timber, I think, equals it for the purposes desired, and certainly none in the facilities with which it can be produced.—Levi J. Hopkins, *in the Country Gentleman.*

FIRST LEGISLATIVE AGRICULTURAL MEETING.

It was ordered by the Legislature on Monday, Jan. 10th, that the use of the hall of the House of Representatives be granted for the purpose of holding the usual Legislative Agricultural meetings during each *Monday* evening of the session.

The first of the series was accordingly held on last Monday evening. The meeting was called to order by the Secretary of the State Board of Agriculture, who stated the objects for which the meetings were held, with a sketch of what they had hitherto been, and what they had accomplished, and suggested by way of organization, that a chairman be appointed for the evening, when Mr. Miller, of Coleraine, was called to the chair, and Mr. G. P. Sargent, of Newbury, to whom our reporter is indebted, was chosen Secretary.

The Chairman stated what had been done in his own town by way of forming a farmers' club, how it had been conducted, and what its influence had been.

Mr. Flint suggested the propriety of appointing a committee to nominate a permanent committee of arrangements to have the general supervision of the meetings, when Messrs. Peck, of Sterling, Paige, of Brimfield, and the Secretary of the Board of Agriculture, were appointed.

Interesting remarks were made by Messrs. Martin, of Warren, Haynes, of Sturbridge, Paige, of Brimfield, and several others.

Mr. Flint gave a general account of the origin and condition of the agricultural societies of the State, and what they had done and were doing, and of the origin and manner in which the Board of Agriculture was constituted, and a succinct statement of the connection of the Board with the management of the State Farm at Westboro'. Questions being asked with regard to the State Society, he answered, by giving an account of its operations and management, in the importation of stock, in offering premiums, &c. It was

Voted, That the subject of the next evening's discussion be, *The interest and the duty of the Government to develop and encourage the development of industrial resources of the State*, and that His Excellency, the Governor, be invited to preside.

Adjourned to Monday, Jan. 17th, at 7 o'clock, P. M.

For the New England Farmer.

COUNTY AGRICULTURAL SOCIETIES.

Mr. Editor:—*Sir*,—I like the plain talk in your columns of this morning, about our County Agricultural Societies, and the support they receive from the State. The original design, at the commencement of the organization, (for I remember it well,) was, that there should be one State society, and one Society in each of the counties of the Commonwealth, and no more, and that each of these should receive $600 a year from the Treasury of the State. This, if my estimate is right, would amount to a sum not exceeding $9000—a moderate contribution for the benefit of the farmer. But since then, there have grown up some eight or ten other excrescencies, receiving four or five thousand dollars annually, together with the State Farm at Westboro', three to six thousand more, all of which in my judgment are misappropriations of the funds of the State, that demand immediate correction, inasmuch as they endanger the entire fabric.

A Massachusetts Farmer.

Dec. 25, 1858.

A SINGING MOUSE.

One of these little animals inhabits our office. For several years past he has made his home in it. He has become very familiar with all hands, and in broad daylight he can be seen playing around the feet of the compositors, or dancing about the cases, seemingly as little apprehensive of danger as if snugly away in his nest. The paste-cup is his delight, but he never objects to a bit of cake, or fruit, with which his admirers occasionally supply him. He is a most remarkable little animal. A piece of cake puts him in high glee, and when he has devoured it, he gets in a corner and sings like a canary bird, his notes being sweet and melodious. Sometimes he will sing for an hour without intermission. He is a general favorite—does what he pleases with impunity—and is regarded as a sort of fixture in the office. Even while we are writing he is playing on the table, and is so tame that he suffers himself to be handled without any show of fear. —*Cumberland Telegraph.*

TRANSACTIONS OF THE ESSEX AGRICULTURAL SOCIETY FOR 1858.

By the kind attention of the indefatigable Secretary of this society, we are favored with a copy of this annual. It is a handsomely printed pamphlet of 224 pages, and contains, beside the ordinary papers showing the operations of the year, 100 pages at least of permanently valuable matter, that will often be resorted to for guidance and instruction.

First among these are the papers relating to the Treadwell farm. By the persevering efforts of the late President of the society, this farm is now in condition to be creditable and useful. I trust it will, ere long, become a model farm. True, it is not one of the best of farms—but if it can become best improved comparatively, this will be enough.

This society was most fortunate in having such orators as Everett and Loring to address them at their annual show. Their speeches are given in full, and will well reward perusal. There are other finely written papers in the volume, which will be read with interest. I am pleased to see such respectful notice, as appears in this pamphlet, of that model of Massachusetts farming, the late Moses Newell, of West Newbury. He was worthy all that is said of him. I have ong looked upon the publications of this society as models for imitation—and the present, if I mistake not, will be found equal to any that has preceded it.

THOROUGH TILLAGE.—At one of the Irish agricultural meetings, one of the speakers remarked —and the truth may be well applied in this country:

"What brought out the immense agricultural wealth of Scotland? and what enabled the small farmer in Belgium, who, on seven or eight acres of light, sandy land, was able to do better for himself and his family than we can do on twenty or thirty acres of land in this country? It was not by allowing three-fourths of a light tillage farm to remain in poor herbage, and making the other quarter pay the rent. It was because the farmers in those countries he alluded to, made agriculture a study, a duty, and a pleasure, and because the farmers till their land to the best advantage, and because no man there would keep one single acre of land more in his possession, han his capital and his means would enable him to cultivate."

TO MEASURE HAY-STACKS.—"More than twenty years since," says an old farmer, "I copied the following method for measuring hay from an old publication, and having verified its general accuracy, I have both bought and sold by it, and I believe it may be useful to many farmers where the means of weighing are not at hand. 'Multiply the length, breadth and heighth into each other, and if the hay is somewhat settled, ten solid yards make a ton. Clover will take from ten to twelve solid yards per ton.'"

BOYS' DEPARTMENT.

THE SLAVE BOY'S WISH.

BY ELIZA LEE FOLLEN.

I wish I was that bird,
Up in the bright blue sky;
That sings and flies just where he will,
And no one asks him why.

I wish I was that little brook,
That runs so swift along;
Through pretty flowers and shining stones,
Singing a merry song.

I wish I was that butterfly,
Without a thought or care;
Sporting my pretty, brilliant wings,
Like a flower in the air.

I wish I was that wild, wild deer,
I saw the other day;
Who swifter than an arrow flew,
Through the forest far away.

I wish I was that little cloud,
By the gentle south wind driven;
Floating along so free and bright,
Far, far up into heaven.

I'd rather be a cunning fox,
And hide me in a cave;
I'd rather be a savage wolf,
Than what I am—a slave.

My mother calls me her good boy,
My father calls me brave;
What wicked action have I done,
That I should be a slave?

I saw my little sister sold,
So will they do to me;
My Heavenly Father, let me die,
For then I shall be free.

THE PINK.

"O, dear mother, give each of us a flower-bed; me one, and Gustavus one, and Alvina one,—and each will take care of his own." Thus said little Frederick to his mother, who granted his request, and gave each child a flower-bed planted with fine pinks.

The children were overjoyed, and said, "How splendidly it will look when the pinks are in bloom!" For it was not yet the season for pinks; they had only put forth their little buds.

Little Frederick, however, was too impatient to await the time of their blooming, and he wished that his flower-bed might be in blossom before all others. He took the buds in his hand, looking at their green covers, and rejoicing when he saw a yellow or red petal peeping forth here or there. But he could not wait patiently: Frederick opened the buds and unfolded the petals altogether; then he exclaimed with a loud voice, "Look, my pinks are in bloom!"

But when the sun shone on them, the flowers drooped their heads, and before noon they all looked mournful, faded and torn. Then the boy cried about his flowers; but his mother said, "Impatient child! may this be the last pleasure of your life that you mar by your own fault, then you will not have bought too dearly the great and difficult art of WAITING PATIENTLY."

TATTOOED SKIN.—Our valued friend and contributor, Septimus Piesse, of London, informs us that the marks or devices which some young people, and sailor boys in particular, make on the skin by pricking it with needles, and then rubbing the punctures with indian ink, vermilion and indigo gunpowder, are so firmly fixed that to remove them severe means must be resorted to. The following treatment will be found efficacious:—Blister the part with a plaster a little larger than the mark or "ornament," then keep the place open with a green ointment for a week; finally, dress it to get well. As the new skin grows, the old tattooes will disappear.—*Scientific American.*

☞ The most remarkable instance of indecision we ever heard of was that of the man who sat up all night because he could not decide which to take off first, his coat or his boots.

LADIES' DEPARTMENT.

SCHOOL GIRLS IN WINTER.

We wish to put in a special plea for the girls. Make their dresses short enough to swing clear of the snow and mud, and give them good waterproof boots, to wear to school. Yes, we insist upon it—they should have boots. Women's shoes of the present fashion are no more fit to be put upon country roads in winter, than an Indian's birch-bark canoe is fit to cross the Atlantic. Boots will not look quite so trim about the ankle, or step so lightly upon the floor, but they will do what is of more consequence—preserve the health to show off these graces in after life, and to take a great many elastic steps that otherwise might be fewer, and those leading directly down to the grave.

Another thing we are glad to see coming in fashion: the ladies are learning to skate, and for this they must have boots. Now, girls, get each of you a pair of neat winter boots, and a pair of skates to fit, and the first ice that forms in your neighborhood, large enough, go out with your brothers, or somebody else's brothers, and learn to skate. Be prudent about it, and not overdo the exercise, and you will find it a capital medicine—next to horseback riding.

The only way to bring about a race of healthy women, is to attend to the physical development of the girls before they are diluted in the false system of fashionable accomplishment, that fits them for nothing but elegant imbeciles.—*Ohio Cultivator.*

HOUSEHOLD CARES.

Mrs. Kirkland has very truly said that woman is never really and healthily happy, without household cares. But to perform house-work is too frequently considered degrading. Even where the mother, in obedience to the traditions of her youth, condescends to labor occasionally, the daughters are frequently brought up in perfect idleness, take no bodily exercise except that of walking in fine weather, or riding in cushioned carriages, or dancing at a party. Those, in short, who can afford servants, cannot demean themselves, as they think, by domestic labors. The result is, too frequently, that ladies of this class lose what little health they started life with, becoming feeble in just about the proportion as they become fashionable. In this neglect of household cares, American ladies stand alone. A German lady, no matter how elevated her rank, never forgets that domestic labors conduce to the health of mind and body alike. An English lady, whatever may be her position in society, does not neglect the affairs of her household, and, even though she has a house-keeper, devotes a portion of time to this, her true and happiest sphere. A contrary course to this, results in a lassitude of mind often as fatal to health, as the neglect of bodily exercise. The wife who leaves her household cares to her domestics, generally pays the penalty which has been affixed to idleness since the foundation of the world, and either wilts away from sheer ennui, or is driven into all sorts of fashionable follies to find employment for her mind. If household cares were more generally attended to by ladies of the family, there would be comparatively little backbiting, gossiping, enviousness, and other kindred sins, and women in good society would be much happier and much more truly lovable.—*Springfield Republican.*

DOMESTIC RECEIPTS.

FRUIT PUDDING.—1½ lb. each of flour, grated potatoes and grated carrots, and ¼ lb. of suet. Salt and spice to taste. Boil 3 hours. To be eaten with wine-sauce.

BOILED BREAD PUDDING.—Half a loaf of stale bread soaked in a quart of milk; 4 eggs; 4 table-spoonfuls of flour. Boil ¾ of an hour; serve with wine-sauce. A little green or dried fruit mixed in is a good addition.

"WINE-SAUCE" WITHOUT WINE.—Butter and sugar thickened with corn-starch, and flavored with the rind and part of the juice of a lemon.

POP-OVERS.—One cup of flour; 1 egg; butter the size of a nutmeg. Bake in small tin rounds. The same rule is good for nice drop-cakes, baked in cups; or boiled batter pudding.

GRANDMA'S BATTER PUDDING.—One quart of milk; 9 eggs, (if you have got 'em;) 9 table-spoonfuls of flour, and a little salt. Steam 1½ hours—if steamed just enough, the pudding will retain its form, and it cannot be excelled for delicacy.

GRANDMA'S MARLBOROUGH PIE.—12 spoonfuls each of sifted (stewed) apple, beaten egg, and melted butter—all thoroughly mixed, and flavored with lemon and sweetened to the taste. Bake without upper-crust. Less butter than the above will do.

APPLE CUSTARD.—Take fine apple-sauce, flavor with lemon or rose, and fill the pie-plates with it. Pour over a nice custard flavored with nutmeg or vanilla, and bake.

A TURKEY BOILED AND THEN BAKED.—Prepare the turkey just as if for baking; then put in a kettle, covering it with water, and closing it with a lid. Boil until quite tender. Then take it out and brown it in an oven for a few minutes. When put upon the table it will be found very tender and juicy instead of dry and tough.